Japanese animation production Manual for animators

By CHAFIK

For motivated animators all around the world!

This manual is divided into 4 parts that tackle these production details:
1- Mindset of a Japanese production flow
2- The production system and flow **(READ THIS VERY CAREFULLY)**
3- Things to note and be aware of (that one might not think of before starting on a production)
(THIS IS IMPORTANT TOO, TO AVOID BACK AND FORTHS)
4- Glossary for terms and certain rules **(THIS CAN BE CONSIDERED LIKE A DICTIONARY)**

Here are the general chapter titles given to divide these 3 parts:
1 = Introduction and general advice
2 = Outline of production process
3 = Additional production advice
4 = Glossary for certain terms and basic rules

INTRODUCTION AND GENERAL ADVICE

Purpose of manual

This manual is made for the reader to grasp the system of the Japanese animation production system.

It is important to note that depending on the type of productions, the method might vary greatly, but this manual is simply a general overview of what “the common sense” of the industry is. From what is taught in this manual, you may adjust and adapt depending on the given context.

Many animators around the world have great skills in animation and drawing, and many have new ideas that could be put into great use in the Japanese animation industry. The biggest obstacle preventing these ideas and animators from crossing over to the Japanese animation scene (from a production point of view) is the lack of experience (as in experience with the Japanese industry) and knowledge about the Japanese system.

Hopefully this manual will give the reader the basic knowledge useful for working under a Japanese animation production, and make production smoother (especially under a tight

schedule) for both parties (animator and studio)

In a production….

Animators are like messengers, LOs are like letters being sent around to the staff. Timesheets are the manuals of the cuts sent around to different staff.

Some staff never meet, they will only receive the information presented on the timesheet. In the final process of the cuts, the in-between and clean-up team will be there to finish up the cuts produced by an animator. The in-betweeners are there for several reasons, one of them is to reduce time in the LO and 2gen process, therefore keep this in mind as you create your cuts: The in-betweeners are here to draw the cells that you do not need to draw, in order for you and the supervisor to save time.

The quality of a drawing / line usually drops at the end of the process when a cut reaches the clean up team:
From 100 to 80. Or 80 to 50 -> Depending on how well the animator has drawn the lines of the cuts at the 2gen stage,

Therefore always aim for very high line quality, so that even when the quality drops, it does not damage your cut dramatically.

Basic advice from a production manager…
- Always consult before making decisions to change whatever has been decided by the director ect…
- Always ask if you are not sure about something.
- If some note is not translated, and you need it translated, never hesitate to ask, it is better for keeping the production flow smooth and to avoid any retakes and accidents
- Check the sequences before and after a cut, and make sure that the content of the cut connects correctly (like the characters' position, the BG, movement and pose of characters ect…)
- Match ALL the cells in accordance with the corrections and directions, not only 1 cell

To keep production smooth, make sure that your delivery includes…
- All the cells
- BG information and cameraframe
- Timesheets filled in
- Clean folders

The episode of an animation piece is supposed to be the director's vision. The director has been chosen by the chief director as well as the producer for a certain piece, and given specific instructions in terms of direction. Therefore, the director of the episode understands the goal of the episode, in accordance with this, the director creates rules for that episode that must be withheld to match the vision. In commercial animations (like television animation), animators are there to help bring this vision to life, and enhance it if they have suggestions with their skills and capabilities. The most important thing is to maintain the vision of the director.

Certain things to expect in a production
Since there are so many people working on a production… Certain information might not get across to all staff. Some elements might be lost in the process.
Schedules are many times pushed because something from another episode needs to be polished, or things do not go as planned.
Therefore, there are many times when things do not go as expected, you do not have as much time as you thought to work on retakes. The corrections did not go as planned. The effect you worked very hard on did not get finalized as you expected…ect.
This may seem disappointing but it is bound to happen when working on a production with so many elements.
Therefore, in order to maintain motivation, it is helpful to oneself to know about this and expect it beforehand.

Most importantly, have fun with the process!
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OUTLINE OF PRODUCTION PROCESS

(only includes production stages relevant for the animator to know)

Storyboard -> Meeting -> LO -> 2gen -> Finishing process -> Rush period

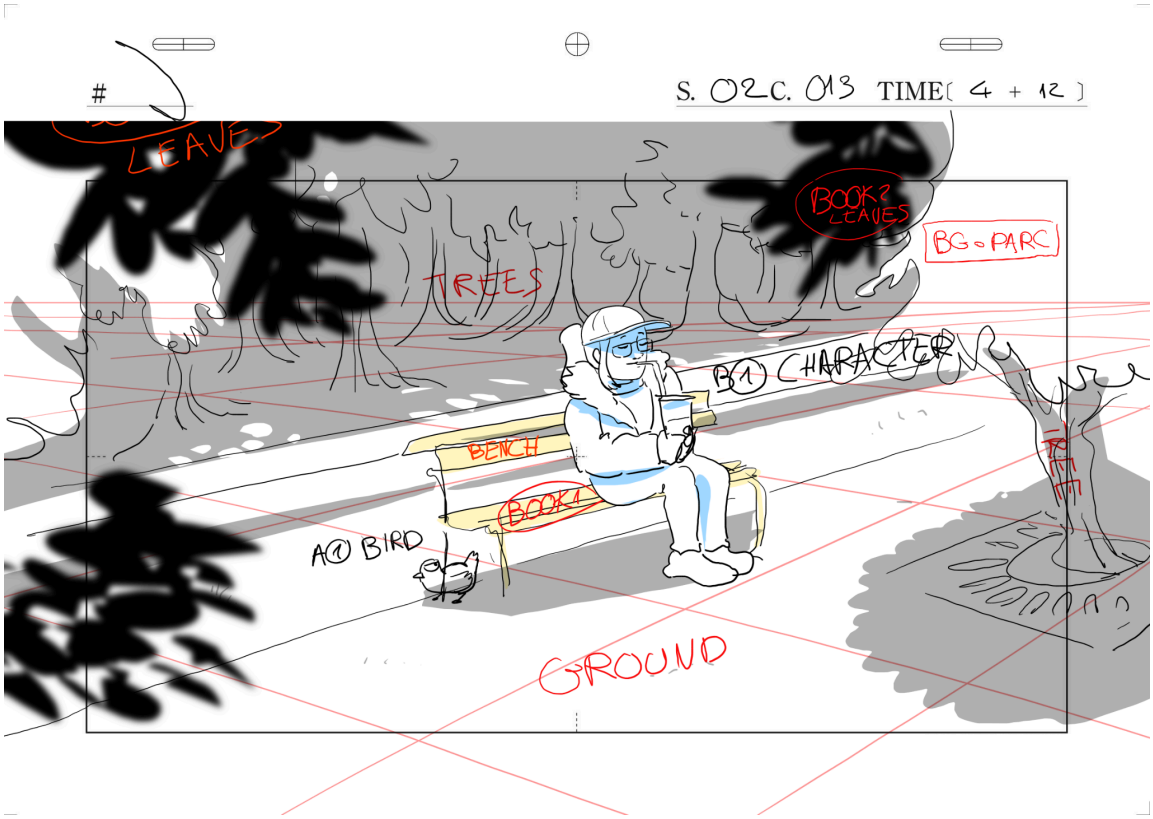
Storyboard:
You receive the storyboard from the production manager,
Discuss with the manager which cuts should be produced.
Before the meeting, make sure you understand what is on the board, especially the dialogue, the director might not explain it during the meeting.
（If you need a translation of the board and did not receive one, make sure to notify the production manager in charge)
NOTE:
If you have ideas and changes you want to make, this is the moment you create them (roughs) so that you can suggest them at the meeting and discuss them with the director before you start the LO.

Meeting:
Director explains cut by cut,

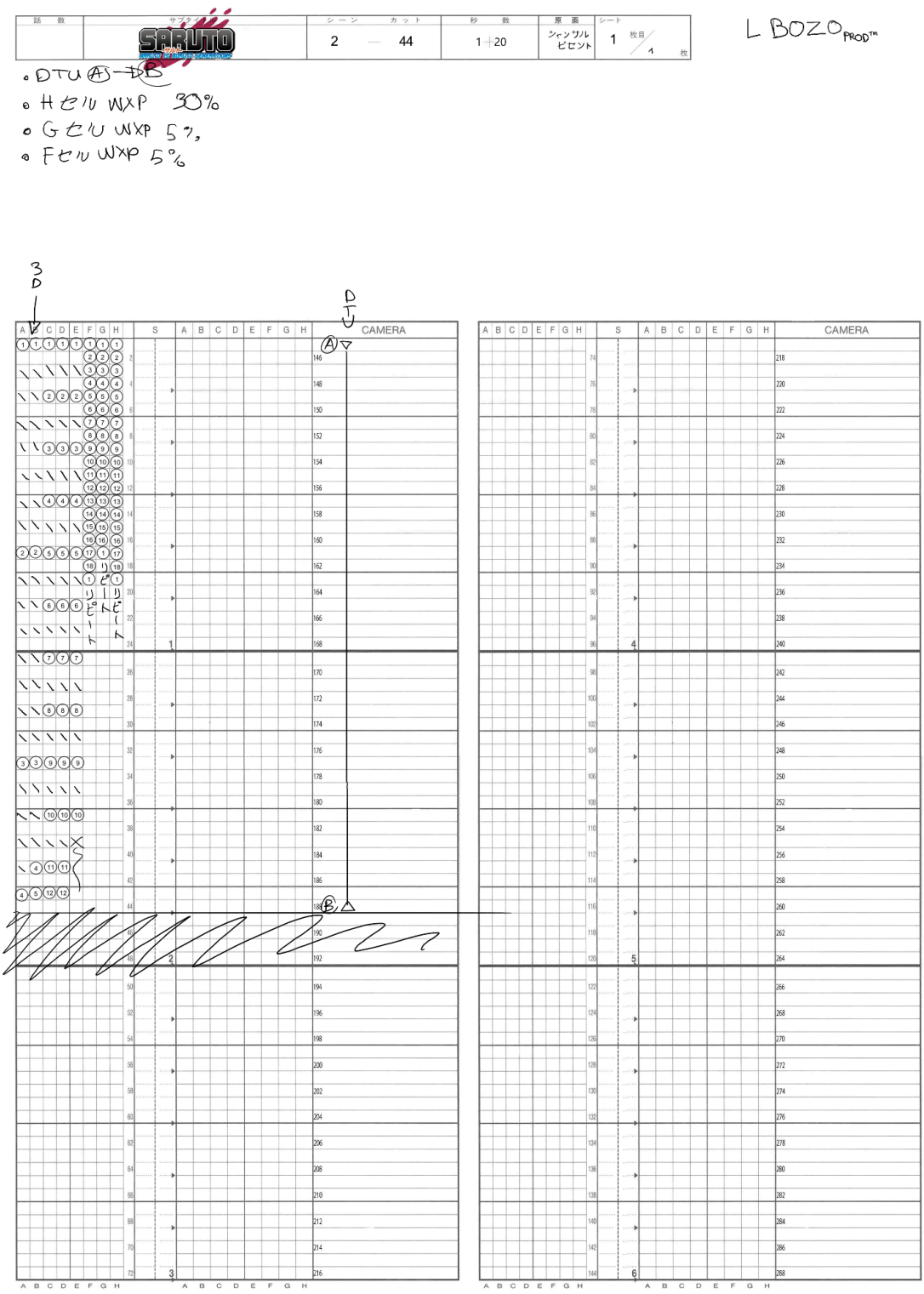
Usually what the director explains is not written on the storyboard, therefore always take notes (or record the meeting if you need to)
If you make a mistake during LO, and the mistake was something that was explained during the meeting, you will most likely get a non-paid retake
At the meeting you can ask the director questions and discuss any ideas you might have had prior to the meeting.
If you have already started the cuts prior, you can show the director and discuss the direction.
Regarding the materials (not reference material, simply timesheets, LO sheets ect) and schedule, discuss this with the production manager via email, not the meeting.

You can always ask more questions after the meeting. (via email ect…)
NOTE:
Regarding the roughs (during the LO stage or the roughs you want to present at the meeting), please check the section written about the roughs.

LO:
A LO (lay-out) is “the blueprint”, that includes the indications for all different components of the cut,
such as BG, compositing, cells ect… It is like “the skeleton of the cut”.



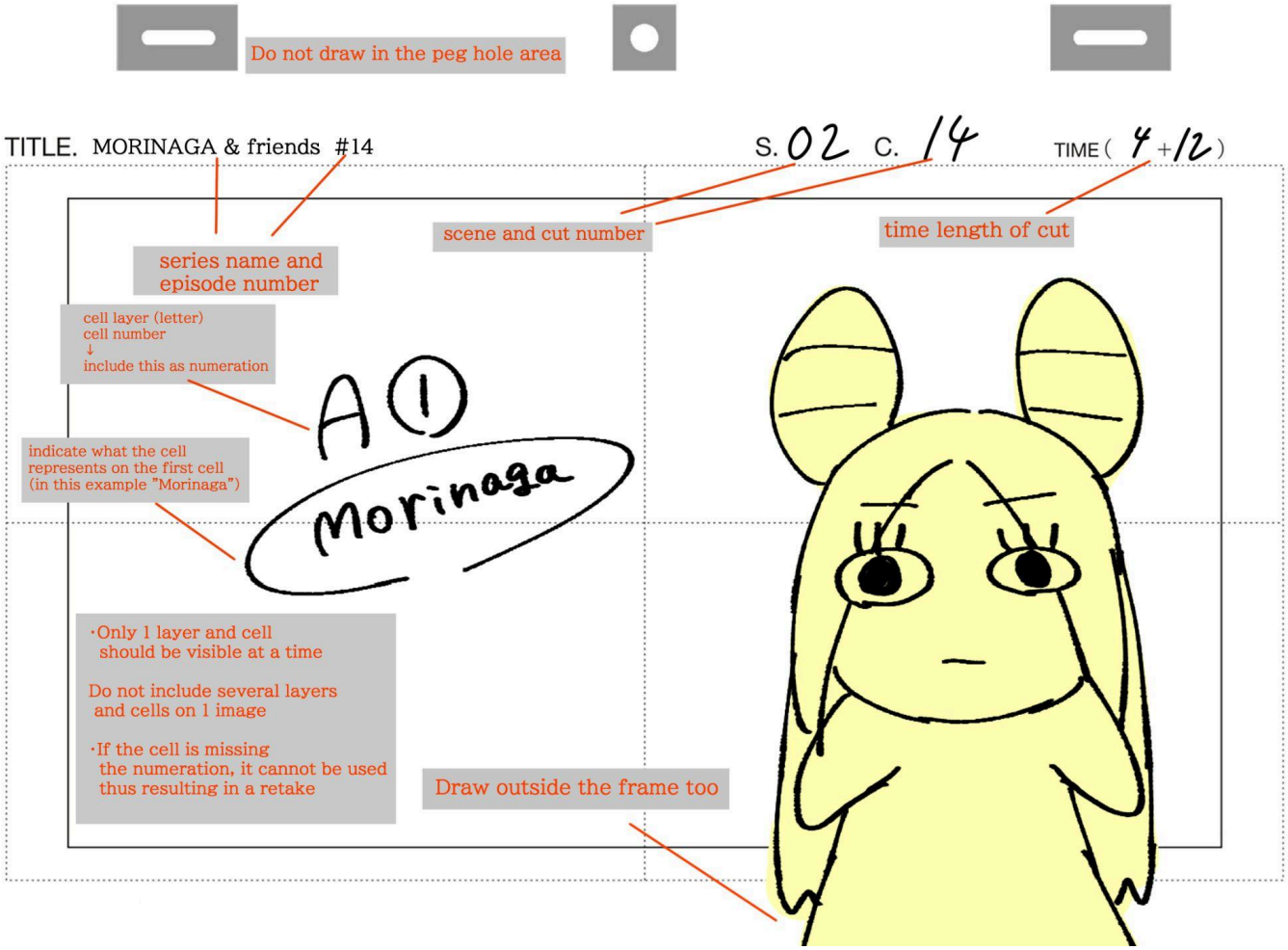
LO example

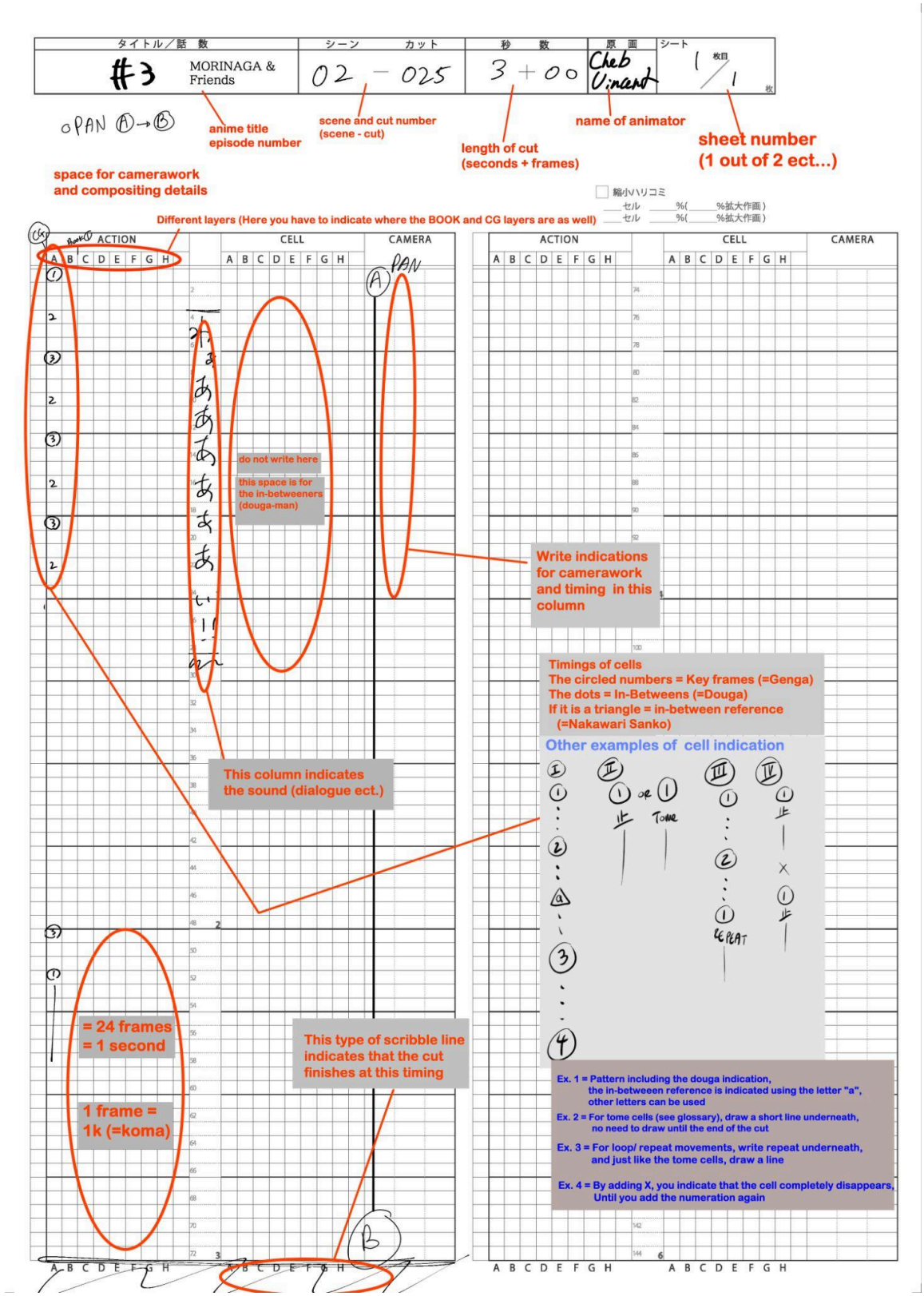


Timesheet example

At this stage you fill in the timesheets and deliver them as well.

DETAILS OF CELLS:


Do not draw in the peg hole area
TITLE. MORINAGA & friends #14
S. 02 C. 14
TIME (4 +12)
scene and cut number
time length of cut
series name and episode number
cell layer (letter)
cell number
↓
include this as numeration
A ①
Morinaga
indicate what the cell represents on the first cell (in this example "Morinaga")
・Only 1 layer and cell should be visible at a time
Do not include several layers and cells on 1 image
・If the cell is missing the numeration, it cannot be used thus resulting in a retake
Draw outside the frame too


タイトル／話　数
#3
MORINAGA & Friends
シーン　カット
02 – 025
秒　数
3 + 00
原　画
Cheb Vinard
シート
1 / 1
OPAN A→B
anime title episode number
scene and cut number (scene - cut)
length of cut (seconds + frames)
name of animator
sheet number (1 out of 2 ect...)
space for camerawork and compositing details
Different layers (Here you have to indicate where the BOOK and CG layers are as well)
ACTION
CELL
CAMERA
PAN
do not write here
this space is for the in-betweeners (douga-man)
Write indications for camerawork and timing in this column
This column indicates the sound (dialogue ect.)
Timings of cells
The circled numbers = Key frames (=Genga)
The dots = In-Betweens (=Douga)
If it is a triangle = in-between reference (=Nakawari Sanko)
Other examples of cell indication
= 24 frames = 1 second
1 frame = 1k (=koma)
This type of scribble line indicates that the cut finishes at this timing
Ex. 1 = Pattern including the douga indication, the in-betweeen reference is indicated using the letter "a", other letters can be used
Ex. 2 = For tome cells (see glossary), draw a short line underneath, no need to draw until the end of the cut
Ex. 3 = For loop/ repeat movements, write repeat underneath, and just like the tome cells, draw a line
Ex. 4 = By adding X, you indicate that the cell completely disappears, Until you add the numeration again

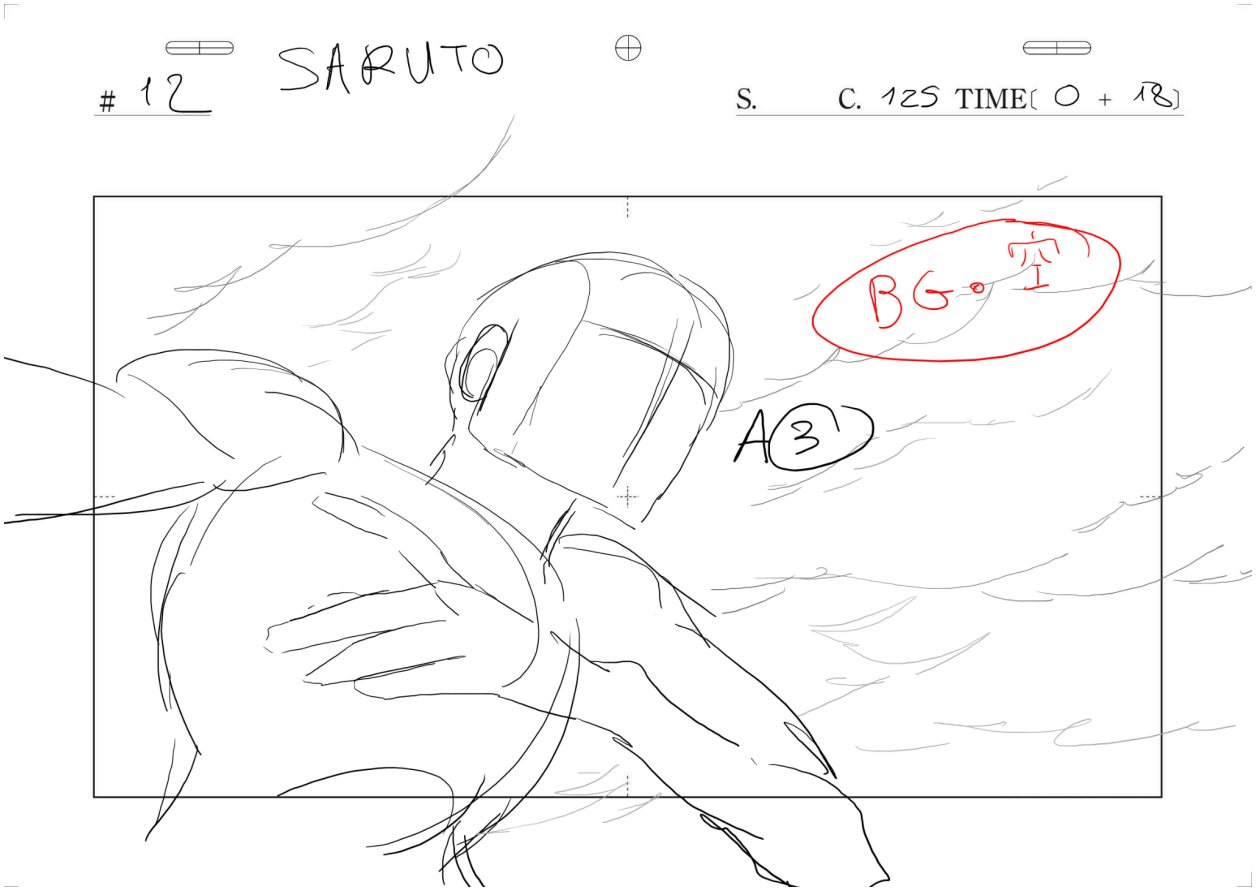
Timesheet details

Create LOs of all the cuts and send them to the production manager.

If you send cuts little by little, this helps everyone in the process, because they can prepare the BG material as well as other things that need to be confirmed beforehand.
If you want to deliver all the cuts at once right before the deadline, discuss it with the production manager so that you can confirm if it works with the production or not.

The faster you deliver the LOs, the more time you have for retakes just in case.

You can create roughs before the LO delivery and show these to the director, to confirm if you are going in the right direction. The director will then direct you towards the direction of their vision.



(This amount of details is enough for a rough, the most important is that we can see the movement)

Remember to clearly differentiate between a LO delivery, and a rough delivery.
If these two are mixed up and not clearly divided, it can cause confusion for the rest of staff.
LO delivery is your final delivery of that cut during the stage.
(Some people like to change the LO after they deliver it, like adjusting the timesheets ect…
But this causes a lot of managing problems for the rest of the staff. Therefore, keep things

very clear and easy to understand for everyone. Once you have sent the LO, the only modification you can do is during the 2gen phase. Do NOT resend the LO of the same cut even if you modify it.

A case that is often encountered and should be avoided: do not resend the LO two days later saying “I made an adjustment to the LO”)

2gen:
The animation supervisor adds his corrections to your LOs.
The director and assistant director may have added additional things/corrections that need to be included in the cut.

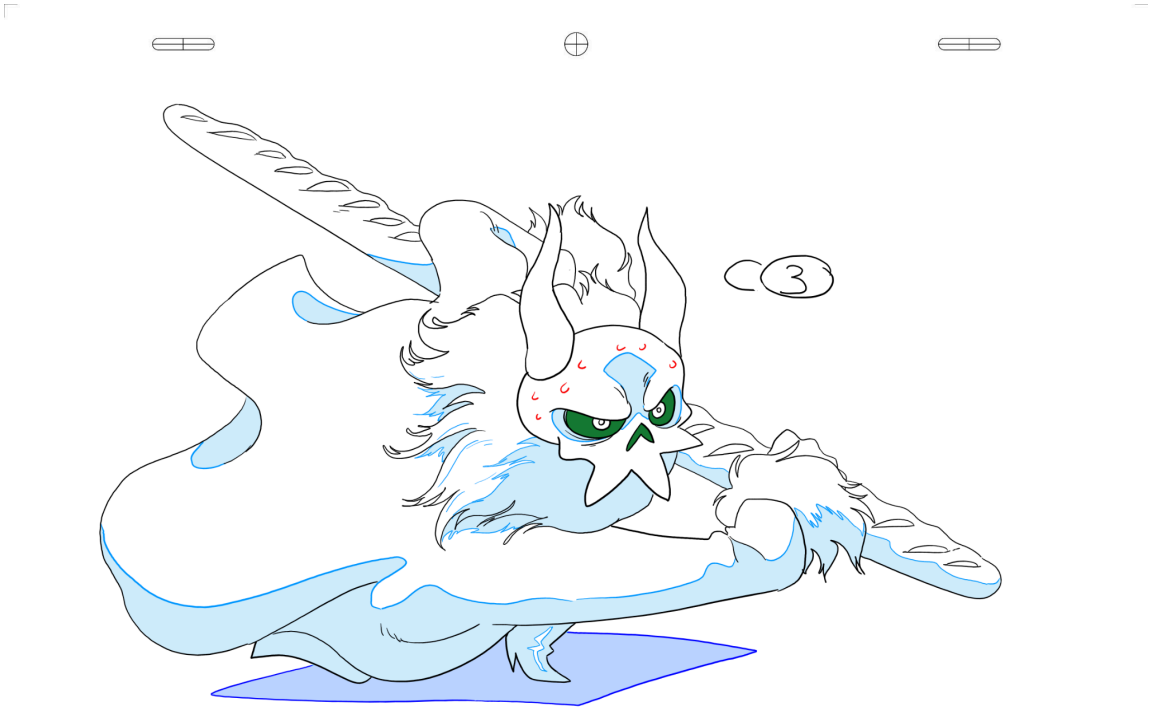
Follow the corrections of the staff and make sure your drawings look like the corrections of the animation supervisor.

Original LO by animator

Corrections and indications by director (in green)

Supervisor corrections (in yellow)

2gen by animator



All frames need to be 100% clean, these drawings will be traced directly by the in-betweeners and clean-up artists.
(IMPORTANT, always bucket fill the shadow parts. Many people tend to forget this)

Only cells need to be drawn here, BG ect have nothing to do with this part of the process, therefore do not think about the BG ect when you make 2gen.

If you need to adjust the movement, timing of movements ect… Please consult with the director, he will direct you so that there will not be any mistakes in connection with the sound ect… (Usually movements are timed with the sounds that the director and sound director have included in a cut)
If you want to adjust something in the drawings, consult with the animation supervisor, because they hold the authority of how the drawings look visually in the episode.

Usually animators never adjust the timesheet in this process.
If you feel like you need to change the timesheet or add another layer at this stage, make it clear for everyone, include it in a note.
Most people never check the timesheets of a 2gen, therefore you need to be very loud and obvious about this.

NOTE: In most studios 2gen is known as 2gen, but certain studios refer to 2gen as “genga”, so it is good to be aware of this.

Finishing process

The rest of the team handles your cuts. (Including the chief animation supervisor, depending on the cut)
Some additional drawings might be needed, or some retakes might occur because of something noticed later on in the process.

The production manager may message you in this process to ask for additional drawings. The additional drawings are best to be produced by the animator responsible for a certain cut, because they understand the cut fully without having to explain the context.

Until the production finishes, there is a possibility of this happening.

If due to circumstances you are not able to produce the additional drawings / retakes, consult with the production manager, they will find a solution (like finding a different person to take care of it, or change the schedule),
Therefore give them notice AS SOON AS POSSIBLE.

Note that giving the cut to another animator demands a lot of work for all the staff (they need to create explanations, negotiate prices and schedules for someone to simply add a small drawing of something missing on a drawing), it can also cause delays in the production of the cut.

Therefore the production managers will always ask the animator responsible first.

TRIVIA: LO and Rough gen, are two different things. The method that is used the most nowadays (that is also explained in this manual) is the Rough gen process.
LO were mostly used in the older days of animation, due to schedule constraint and technology limitations. LOs did not include all the movement, and the key animation would be added after the LO.
2gen did not exist in this time either.

LO is not used as much in this time period, which is why it has not been explained in this manual, but certain special projects may choose the LO method because of certain production methods they decide to use. In case this type of situation shows up, it is good to be aware that an older and different method used to be used for TV animation.

Rush periods

The rush period is a critical part for the production pipeline.
It is the moment where cuts have been fully composited and all staffs check the video files in order to give retakes and fix certain elements.

Animators might be given their cuts composited so they can check and give retakes, correct their cuts if wished to do so.
Let the production manager know if you want to be part of the rush, they will let you know.

The rush happens very spontaneously, it is not very planned, and everything goes fast.
Therefore, it is a good idea to confirm beforehand around when the rush period will start to be ready at all times to do corrections and send around materials.
Everything is sent around fast, because it is the final part of the process and there is barely any time.

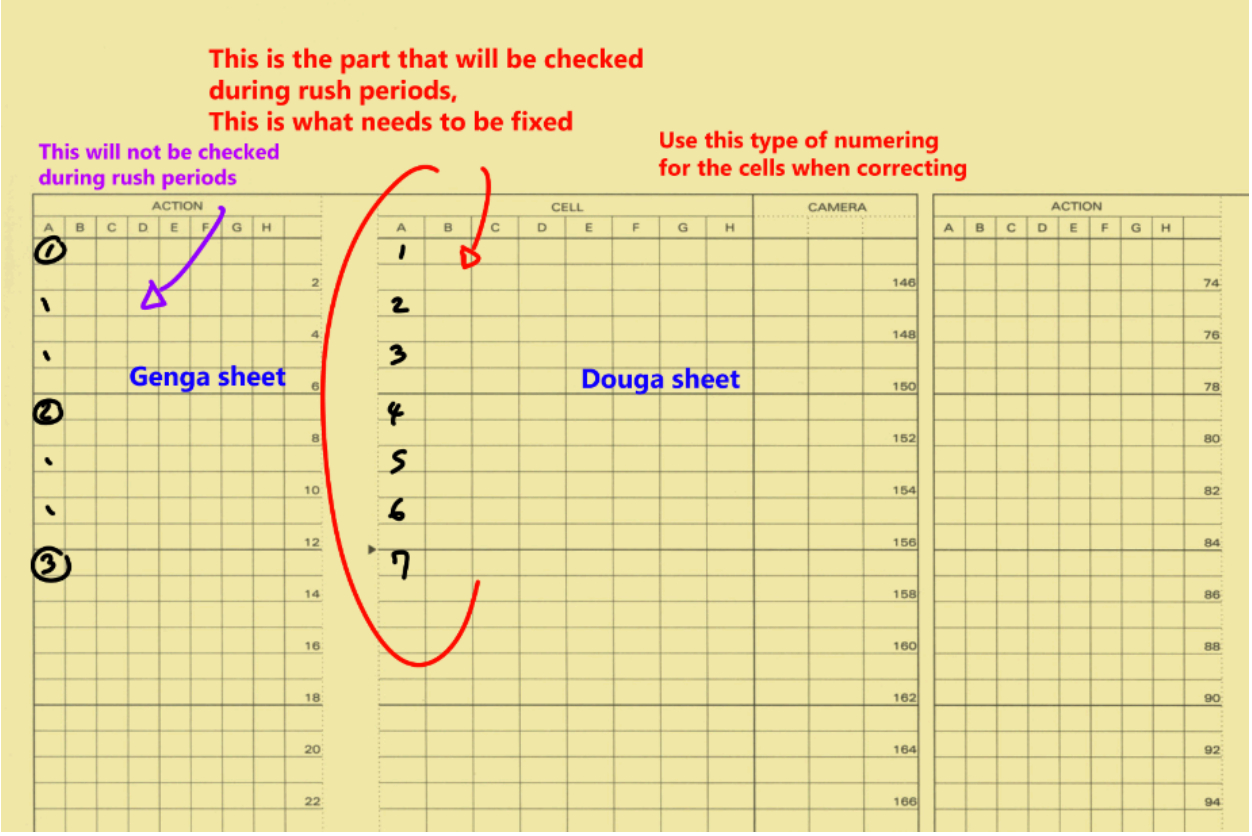
When an animator checks a composited cut and they want to fix the cells,
They need to receive the **TP data** (trace and paint data).
This is the data given to compositors for cells.
They are targa files (.tga). So they have to be corrected and exported as .tga files

When correcting .tga files, always check that the file resolution is correct for exporting.

Whenever you correct anything in a cut,
Include _r next to the file you corrected.
If there is already an _r, you simply add another _r, so it becomes _r_r.

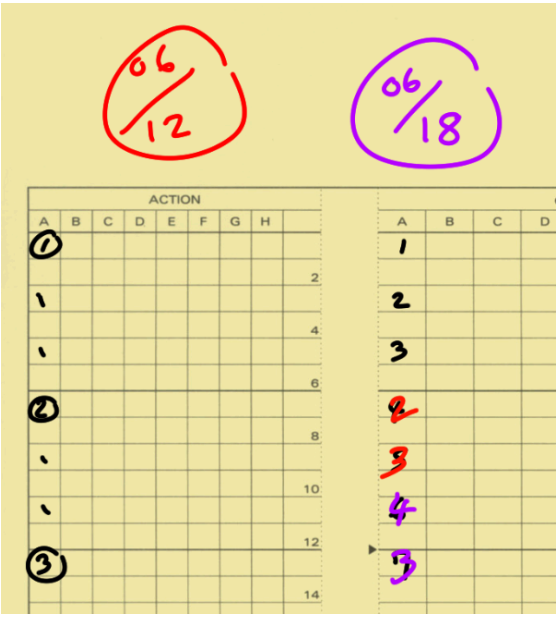
Include it in the folder of the cell as well,
So that all the staffs immediately know what to check when they see the folder.

When correcting timesheets, you also include _r on the file name.
Important! At this stage, you are no longer dealing with key frames, 2gen, genga.
We are dealing with finished cells, douga. So a different column and naming system has to be checked for this stage.



Whenever you correct anything on a timesheet, always use a different color, so that the other staffs know what has changed, and what is the most updated version of the timesheet.

A smart thing to do is to write the date of the correction, using the color that you used, so everybody knows what to look at.



You can include txt file notes to give indications to the director and compositing team about what is fixed precisely.
Check the manual section about text notes, so understand how to present these files.

Checking rush files, compositing exports

There are two types of compositing exports,
Final version (本撮)
Timing version (タイミング撮)

Timing version, means that the final color script has not been decided, background may have not been included, or compositing team did not have enough time to put effects.
They create this export so that the team can check the movement just in case.
So that they can check if the timing matches with the sounds.

In this case it will be written on the top of the file in Japanese letters.
For a timing file, only give retakes for the movement.

Final version,
This is the one to be used for the episode, so no Japanese letters will be included at the top of the file. Here you can give all sorts of retakes.
The colors and BG has been decided.
Sometimes other staffs may have already given the same retake as they are all checking the files.

Regarding color script timings…
Color scripts are usually decided after the BG has been approved,
There are sample colors used for the timing export, so that they compositors can input the data beforehand to save time.
Knowing this information is useful for judgement of the colors when checking exports.

Spotting
After receiving a timing export, or a final export.
The editing people who have the sound, and the director, will check if the movement, lip sync ect matches with the sound.

If they do not match, a spotting list will be given with the timing of the sound and dialogue.
During the rush, the movement timings will need to be adjusted in accordance with the spotting list.
Animators may be asked to do this.
In this case, fix the Douga sheet column, NEVER fix the genga sheet column.

When writing retakes and direction,

Please keep the language simple and objective.
Certain languages have certain nuances that are not translated well, and may cause a lot of confusion.

Notes to avoid:
“I would like the movement to be more smooth, we should add two more frames between cells 2 and 3, and the color should be adjusted to be green like the references I have included”

How to write it instead:
“Add two cells between cell A2 and A3
Fix colors of cell A -> Check reference “a”

When including reference material,
Make the reference material name clear,
Name the file “ref_a”, or “ref_1”, just to make it easy for everyone to understand what to look at.
In a txt file or on the timesheet you can write “refer to ref_1”
Or in Japanese “ref_1 -> 参考参照”,
This way, the Japanese staff will understand what they have to look at without being confused.

Simple is better!

The different roles of people

Production manager (Shinko/ 進行):
Manages schedule, meetings.
Delivers cuts to the staff and other materials.
Communication pipe between the creators (animators to director / animation supervisor)

Director (Enshutsu/ 演出):
Chooses the overall creative direction of the episode
Checks all the cuts
Gives direction to all the section

Animation supervisor (Sakkan/ 作監):
Maintains the balance of the visual look of the episode
Corrects animators drawings to make them look as close to the model sheets as possible
(The main goal of an animation supervisor is to keep the balance of the look of the episode, it is not related to direction. They follow the character design model sheet handed over to them, and try to replicate the look through their corrections)
NOTE: Certain Sakkan will fix the timesheets and movements, but this depends on the Sakkan, certain Sakkan will only correct the visual look and leave the movement up to the animators.

ANIMATOR CHECKLIST AND MISSION FOR EACH PROCESS

LO ->
Create the cut
(This includes: movement of the cells, BG indications and timesheets filled in)

Make sure that the indications are clear to the rest of the staff (BG, compositing, director ect…)

LO delivery needs…
(Use this list as a checklist before delivering a LO)

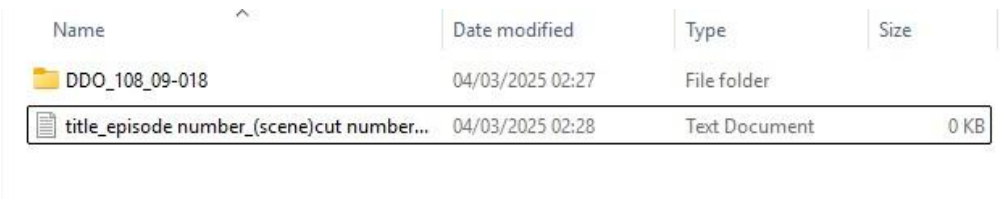
：Timesheet filled out
・Cells
・BG + BOOK
・Camerawork indication
・Frame + Peg holes included
IMPORTANT -> LO needs to include at least two frames for each layer that is drawn at a 2gen level, with shadows and details filled in. This is so that the animation supervisor can decipher which direction the drawing is going and decide on what type of corrections they need to do. It also makes the process faster, as they only need to look at two of the images, instead of all the cells.

2gen ->
Clean up the cells based off the supervisor's corrections
(Here you must think that the in-betweeners need to understand 100% what type of drawings they need to trace and create based on your delivery)

2gen needs…
(Use this list as a check list before delivering a 2gen)

・Cells
・Peg holes (frame should not be included)

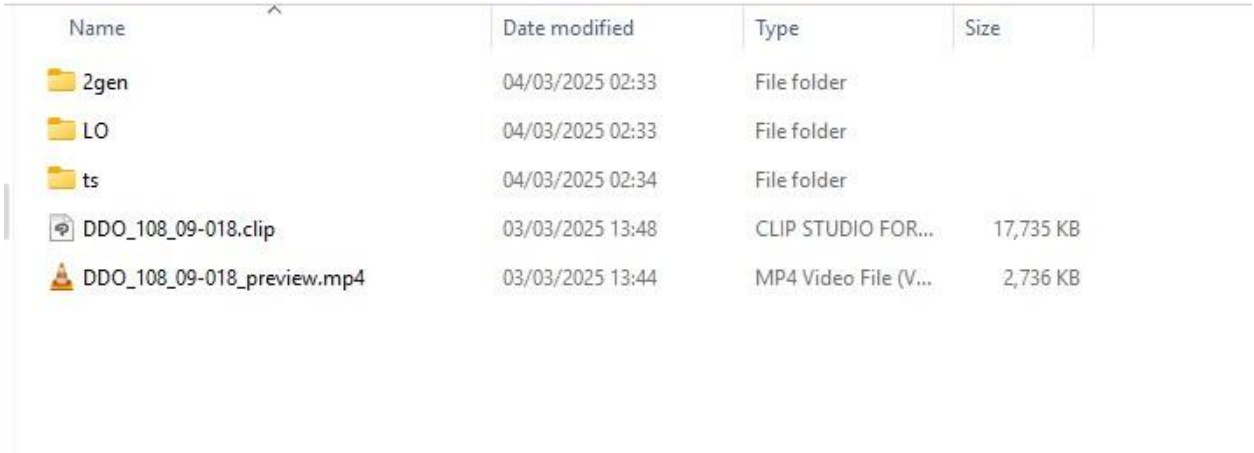
What a perfect folder looks like:



Name the folder after the series title initials, episode number and cut

(In this case the cut number is “scene 9, cut 18”)

The inside should look like this:



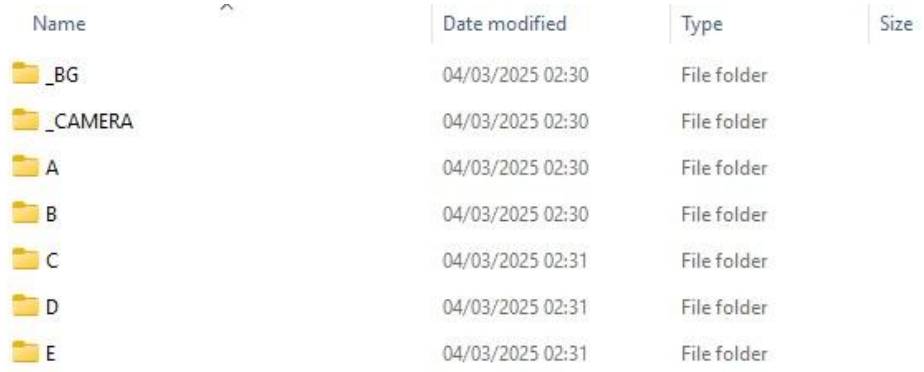
Name	Date modified	Type	Size
2gen	04/03/2025 02:33	File folder	
LO	04/03/2025 02:33	File folder	
ts	04/03/2025 02:34	File folder	
DDO_108_09-018.clip	03/03/2025 13:48	CLIP STUDIO FOR...	17,735 KB
DDO_108_09-018_preview.mp4	03/03/2025 13:44	MP4 Video File (V...	2,736 KB

Folders for:

- LO (=lay-outs)
- 2gen (only create this folder when you get to the 2gen (clean-up) stage)
- Ts (=timesheets)
- A preview of the cut.
- Clipstudio file if you are using Clipstudio.

NOTE FOR TS = The manual and screenshots say a folder is needed, but simply exporting the timesheet as a jpg, and naming it after the series, cut number and adding “_ts” as the end is much easier for checking, therefore, please export as a jpg and do not include a folder

LO folder:

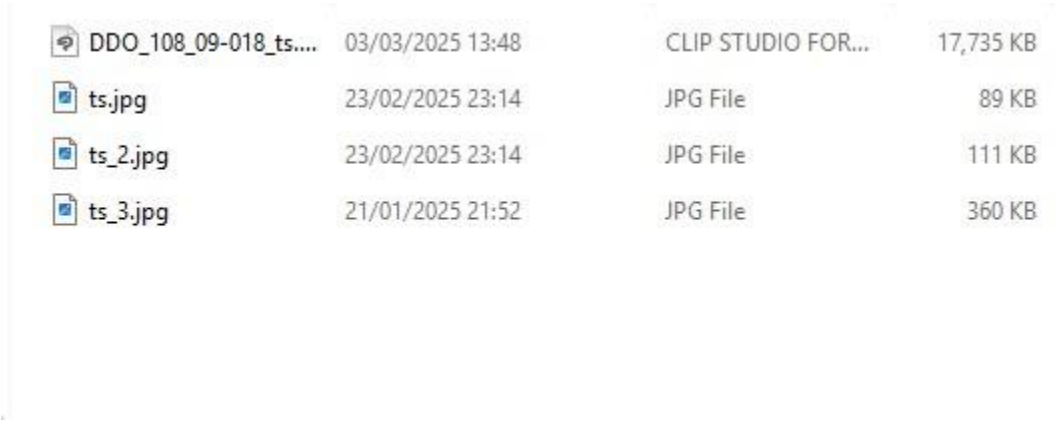


Name	Date modified	Type	Size
_BG	04/03/2025 02:30	File folder	
_CAMERA	04/03/2025 02:30	File folder	
A	04/03/2025 02:30	File folder	
B	04/03/2025 02:30	File folder	
C	04/03/2025 02:31	File folder	
D	04/03/2025 02:31	File folder	
E	04/03/2025 02:31	File folder	

-**The cells** being separated into separate folders (cells should be in PNG or JPG, depending on production)
-**BG folder** should be included, here you include the **BOOK**s as well.

-The **CAMERA** folder should be included, here you include **camera directions** like PAN, TB, TU, SL ect… As well as other **compositing indications**.

TS folder:



The timesheets in jpg format (named ts in this example).
If available, the timesheets' ClipStudio file.
NOTE = Please include title name, episode number, then add _ts section at the end, this makes it easier for data checking and management.

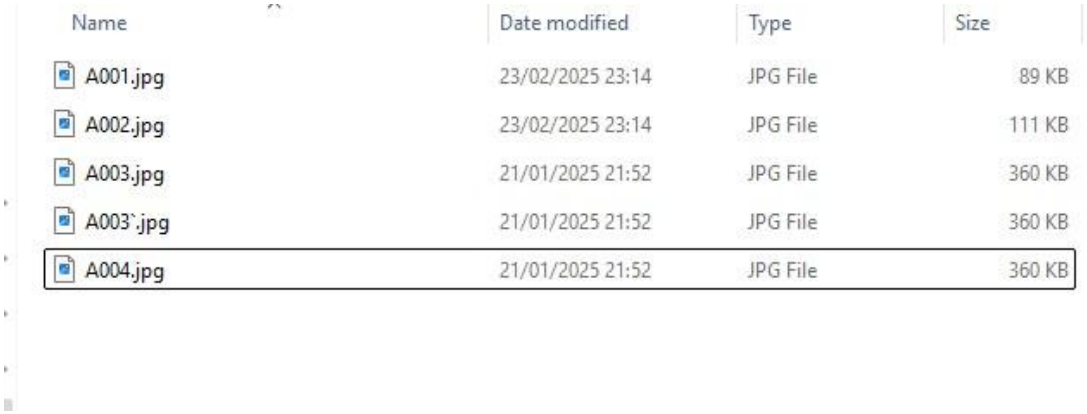
2gen folder:

Folders of each cleaned up cell separated.
NOTE: As you may have noticed, cell C is not included. There could be various reasons for this:

- The cell in the LO stage is good enough to be used as 2gen (for example smoke effect, light effects ect…)
- The animation supervisor's corrections will be used as 2gen (this is only allowed if the animation supervisor says themselves to use it)
- The cell was omitted midways through the process

In this type of case, remember to add a text note for the rest of the staff to understand why the cell is missing in the folder

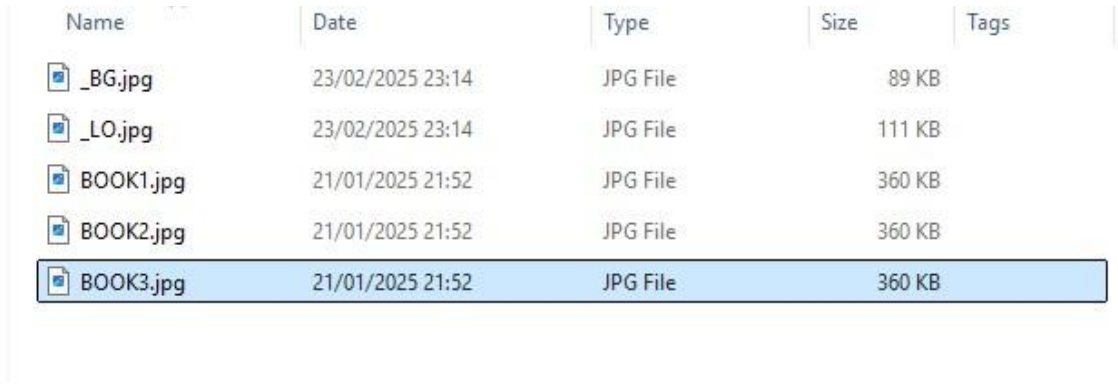
Inside cell folders:



Name	Date modified	Type	Size
A001.jpg	23/02/2025 23:14	JPG File	89 KB
A002.jpg	23/02/2025 23:14	JPG File	111 KB
A003.jpg	21/01/2025 21:52	JPG File	360 KB
A003`.jpg	21/01/2025 21:52	JPG File	360 KB
A004.jpg	21/01/2025 21:52	JPG File	360 KB

Every cell exported and named in the chronological order

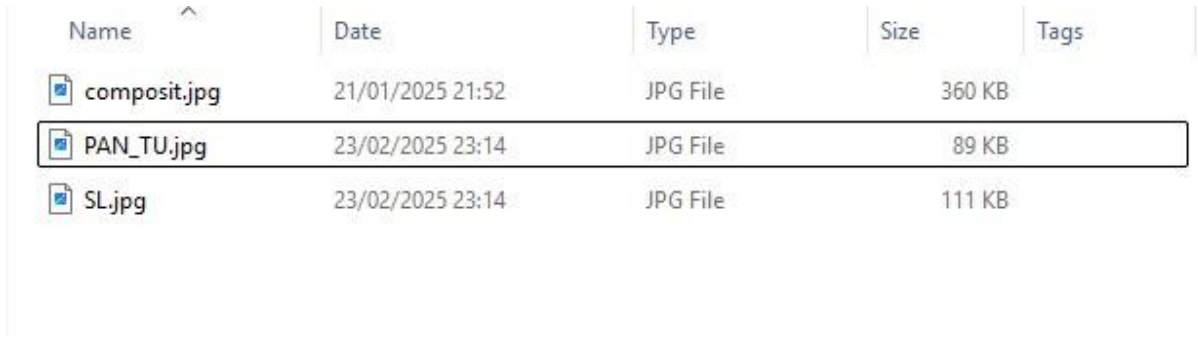
Inside a BG folder:



Name	Date	Type	Size	Tags
_BG.jpg	23/02/2025 23:14	JPG File	89 KB	
_LO.jpg	23/02/2025 23:14	JPG File	111 KB	
BOOK1.jpg	21/01/2025 21:52	JPG File	360 KB	
BOOK2.jpg	21/01/2025 21:52	JPG File	360 KB	
BOOK3.jpg	21/01/2025 21:52	JPG File	360 KB	

BG and all the BOOKs exported.
It should also include the LO, which is one image that includes all the BGs, cells, BOOKs, camera indications ect… One image to show all the elements put together, for some staff to have a template to work out of.
NOTE: Only include 1 frame of each cell

Inside a CAMERA folder:



Name	Date	Type	Size	Tags
composit.jpg	21/01/2025 21:52	JPG File	360 KB	
PAN_TU.jpg	23/02/2025 23:14	JPG File	89 KB	
SL.jpg	23/02/2025 23:14	JPG File	111 KB	

Exports of the camera indications (this can vary greatly per cut)
Do not include the cells or BGs on the exports

Camera indications can include SL annotations, TU/TB indications, compositing and FX indications ect…

Important “events” during production process:

Cutting
Length of each cut and timing of sentences are decided here.
An animatic of the storyboard (or LOs/ roughs delivered) is produced for the entire episode.
After the editing event, the length of cuts and timings of sentences cannot be adjusted.

If an animator sends their LOs by this stage, it helps a lot.
-> DEMERIT = There is no sound at this point, so you will not be able to match the lip synch to any sound file
You can send a rough instead of a LO for this stage in case you want to wait for the sound File.
(This depends on the production)

AR (After Recording)
Voices of the characters are recorded at this stage.
While looking at the LO or roughs, the voice actors match their voices to the timing of the sentences based on what they see on the screen.
(This depends on the production)

Dubbing
Sound effects and music are put here.
At this stage, the episode needs to be animated 100% (LO).
If cuts are 100% finished (or if they are 2gen) the quality and precision of the sound will be higher than if we use a LO.
(This depends on the production)

Rush
Here the staff checks the cuts composited and decides on retakes.
This is repeated until a cut is deemed to be good enough for the episode.

Getting information across to different sections

If you copy paste this sentence at the end of your message to the staff it will leave a good impression of you (Japanese custom)
“宜しくお願い致します。”

Each section has a different way you can convey information. Because the staffs are not gathered the same place, the LOs and timesheet will be like “letters” sent around the production with the messages inside of them.

Director / Animation supervisor
-> Leave a note on an additional LO layer, they will eventually see it and read it.
BG team
-> Leave a note on the BG or BOOK layer, write “To BG ….. (note)”

Compositing team
-> Leave a note on the timesheet at the space on the top.

In-betweeners / Finishers (nakawari sankou ect…)
-> You can create in-between references, by making the key frame number with a triangle. In-between references can be drawn rougher for the 2gen phase, but these must be included on the time sheets.

Production manager
-> As usual, per mail

THE INFORMATION THAT EACH SECTION NEEDS TO KNOW ABOUT THE CUT:

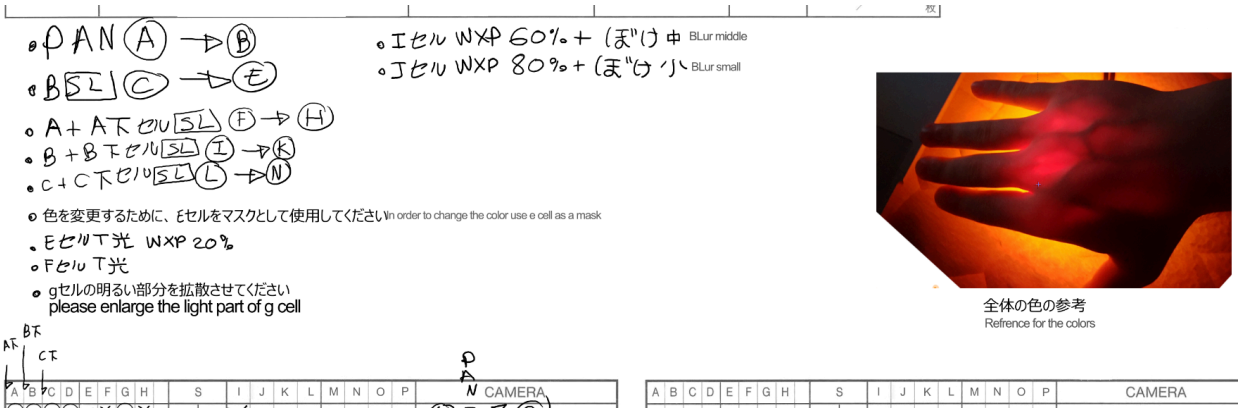
What the production manager needs to know
- By when do you finish the cut
- What cut did you send
- Which cut is a LO / 2gen / Rough / Missing material from past sent cut
- How much more time you need
- Any question or information you want to convey to a staff member during the making of your cuts

What the director needs to know
- What you are trying to technically do with the cut, everything needs to be clear for him to interpret it

What the animation supervisor needs to know
- How you are envisioning of cleaning the cut up
-> Therefore, **during the LO process, add at least a first and final frame for EACH layer that is drawn at 2gen level,** with shadows and perfect lines and proportions, that way they can tell what type of corrections they should add to your drawings

What the BG team needs to know
- How they should draw the BG, therefore try to make it clean enough, with correct perspectives and letters describing certain objects. The BG team does not imagine the BG, they draw based off the layout you provide for them.
(Any cut that does not include a BG (unless specifically made to be so) cannot be accepted as a LO delivery)

Examples of notes given to the compositing staff


PAN A → B
BSL C → E
A+A下セル SL F → H
B+B下セル SL I → K
C+C下セル SL L → N
色を変更するために、Eセルをマスクとして使用してください In order to change the color use e cell as a mask
Eセル下光 WXP 20%
Fセル下光
gセルの明るい部分を拡散させてください
please enlarge the light part of g cell
エセル WXP 60%+ ぼけ中 BLur middle
ジセル WXP 80%+ ぼけ小 BLur small
全体の色の参考
Refrence for the colors
A B C D E F G H S I J K L M N O P CAMERA
A B C D E F G H S I J K L M N O P CAMERA

Roughs (Brainstorms)

Roughs are for brainstorming ideas with the director, to see what direction you may take a cut and get confirmation if the direction is correct or not.
Usually traditional Japanese animators do not have enough time to produce roughs, therefore they usually decide to stick 100% to the storyboard and what was mentioned at the meeting and send LOs from the go to save time.

What do we need in rough?
-> overview of the movement

What can we use rough for?
-> when you have a new idea, or you want to confirm the direction your cut is taking, the director is able to check and give a judgement before you start putting in a lot of work in making the whole LO
(You don't need to make rough if you followed the storyboard right for a cut, just send the LO directly)

When can we use it?
-> cutting session and voice recording session (depending on the production of the episode and the director). Cannot be used for the dubbing session.

Nakawari vs Zengenga

Nakawari = In-betweens
Zengenga = When no in-betweens are used for a cut, and everything is done on Keys

The biggest difference (from a Japanese staff point of view) when working with an international animator, as opposed to a domestic animator, is the use of Nakawari (in-betweening) and Zengenga (full key).
This concern has been voiced at several occasions, because balancing out Nakawari is an important and strong part of the TV animation tradition in the Japanese industry.

There are cuts and situations where Zengenga would be a better choice. There are many instances where having balanced out the Nakawari instead of going Zengenga would have saved the production people a lot of time and made things easier (Zengenga would not have been necessary in most of these situations).

The reason why a whole explanation page is dedicated to this topic is because this is the biggest concern that divides both worlds. An animator who is able to balance out between these methods is the type of animator that most productions strongly wish to make a part of their projects.
After having asked several people in the industry about Nakawari vs Zengenga, this is the type of answer that is possible to provide for you (though it is a very abstract concept, and difficult to put into
words…)

What happens when you make zengenga
-> 2gen-man has trouble
Imagine that due to circumstances you are unable to finish your cuts all the way to the 2gen phase, and someone else has to take over the 2gen of your cut.
Within a very tight schedule, someone who most likely has never had a meeting about the episode will suddenly have to take your cut and draw the keys.

If there are Nakawari, it means less work for the 2gen person. But if it is Zengenga, they have to draw maybe around 10 times the amount of work they would do normally had Nakawari been added.

The problem with this is also, the supervisor usually does not add corrections for every frame of a Zengenga cut, thinking that the animator responsible will be able to understand the corrections as well as the keys from the LO stage. But the moment we tell them the cut is given to someone else, they decide to add corrections to all the keys, to avoid any sort of

mistakes and accidents that could occur during the 2gen process given to an animator without context of the episode.

You can imagine that this causes a lot of extra work for the 2gen person as well as the supervisors (and production managers who has to juggle with the schedule and negotiation of all these people), therefore having done Nakawari would have saved a lot of time and effort for everyone (remember that 1 episode has around 300 cuts!!).

-> in-betweeners are here to make things easier
The solution to avoid the problem of animation supervisor having to correct every frame of a LO and 2gen are the in-betweeners. Think that the in-betweener is here to reduce work. Therefore, unless it is really needed for a movement, stick to creating lots of Nakawari and less keys.

Zengenga is good for certain movements, but for a simple head turn, or a movement of a character lifting up an arm, adding Nakawari could save a lot of time and effort for the rest of the team.

Merit vs demerit
Demerit -> You might not make it for the deadline when you make 2gen
Merit -> Nice smooth movement, you can check what the movement is like

NOTE:
Leaving 6 frames (or more) of open space between the keys without in-betweens results in static movements, therefore in this case, add in-betweens (note them on the timesheets) to create a more smooth movement. Unless the scene is specifically made to have static movements on purpose, avoid this type of movement, and add the in-betweens to keep the flow of the movement.
The basics of keeping the movement smooth in Japanese animation is to have 1 or 2 frames of open space between the in-betweens.

—----------

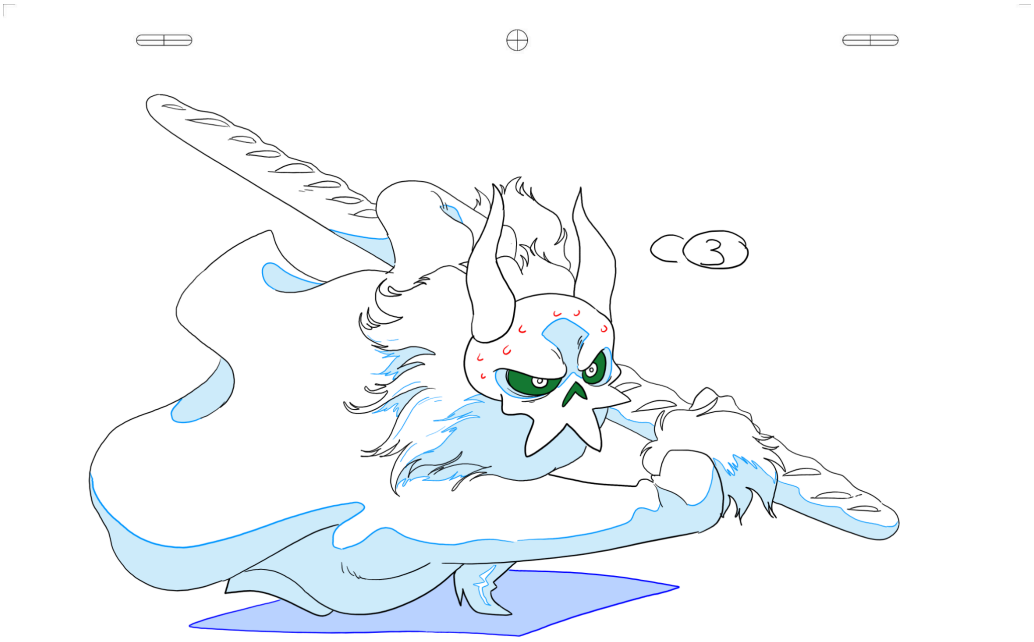
・Quality of 2gen
2gen (or genga) is what the finishing team will use to create the cells.
The quality will drop, therefore try to push the quality as high as you can so it does not drop drastically.
2gen need to be clean, they cannot be rough drawings.

Many people at the beginning misunderstand 2gen, and they draw it like “douga” (finishing cells) with an equal line.
THIS IS NOT GOOD

DO NOT draw the 2gen as douga. **Here is an example of this**

All the lines are equal width, there is no variation in the line.
The drawing ends up looking very flat.
The finishing team will handle creating the cell lines, at the 2gen phase the drawings need depth and dimension. Variation on line width to create this balance in the drawing.

Example of a good 2gen:



The lines do not pass through one another, it is very clean, and there is a width variation to the lines.

When lines pass on top of another it is not considered clean 2gen, and sakkans will notice it, sometimes they will have to correct each individual drawing themselves, therefore avoid making these mistakes during 2gen.

In certain productions, you are allowed to play around with the 2gen to make it more stylised, Here are some examples of stylised 2gen

This should only be done after you have been given permission by the director, as this sometimes may go astray from the rules made within the episode or series.

This type of stylised 2gen can also have a strong effect, therefore, when making a special type of cut or scene, do not hesitate to ask if you can go in a stylised direction if you feel like doing so. (ALWAYS ASK BEFORE DECIDING ON DOING)

・Etiquette regarding 2gen VERY IMPORTANT TO KNOW

When an animator accepts to create certain cuts, the rest of the team assumes that the animator will go through with it until the end.
If an animator abandons a cut midway through and lets another person work on it, it is see very negatively by other staffs, almost like someone running away from their responsibility.
They may not ask them for work again afterwards, or be cautious about working with them (sometimes it can be mentioned in production manager meetings that the person abandoned their 2gens, so that other managers are careful when assigning cuts to that animator).

Of course, productions have delays, sakkan corrections may take longer than expected. Certain times it is something that cannot be helped. In this case, the best thing to do when giving up on your 2gen is…

Let the production staff know beforehand, not last minute.
Prepare someone else to help on the 2gen, so that the manager does not need to find someone else.
Make sure that you are able to check the 2gen of the person you found, that way you are still taking responsibility of the cut.

By doing this, the production staff will have a better image of you and trust you even more, because they will realise that you do have back up just in case, and that they will not be left with out of blue troubles to solve.

-
If you know beforehand, before even having a meeting about the LO, that you can only work on LO and not 2gen, let the staff know. Or prepare someone that can work on your 2gen.

There are many cases where someone did not work on their 2gen, and the production staff had to find someone else. In many of these cases, the cut did not finalise in the way that the initial animator had intended. A lot of intentions were lost.

This is why it is better to prepare a staff from the animators side, that the animator can actively check, in order to maintain the animators vision and quality.

Production managers have contact for people who can do 2gen, but if the contacts do not understand the initial animators vision, or simply cannot get to the same level, something will be lost in the process.

・Kenyou cut (兼用)
This term is always used in Japanese productions, therefore it is very important to understand its meaning and system.

A kenyou cut is when you recycle the same LO for different cuts.

For example:c-001, c-003 and c-009 are all linked kenyou cuts
This means:
The same BG, cells ect will be used for all cuts.
But, different timesheets are used for each cut.

You have to mark at the top of the timesheet which other cuts connect to the kenyou cut of the Timesheet.

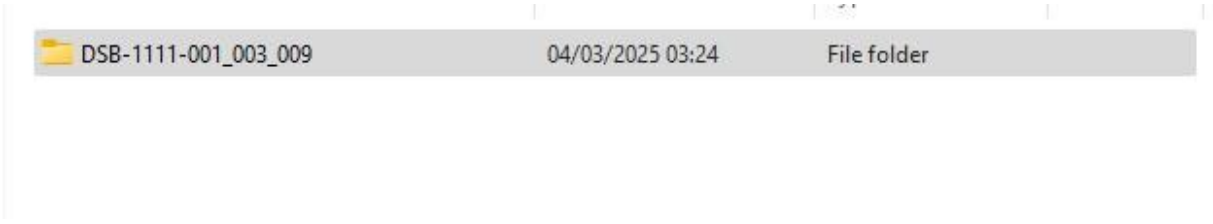
On the c-001 cut, c-001 would be written, with “003” and “009” written underneath to indicate the cuts related.
Similarly the c-003 cut would have “001” and “009”, and c-009 would have “001” and “003” written underneath.

The LOs and the timesheets for kenyou cuts should all be grouped into the same folder and delivered together.
The folders name would be: “(series initials)-(episode number)-(cut number)_(kenyou cut)”
= DSB-1111-001_003_009

If you recycle a movement from cut 001 (in this kenyou example), use the same numbers and cell names that you used for the first kenyou cut. When you continue to a different cut, and the movement continues onwards, simply continue the movement from where the previous cut left Off.

(DSB is just a random title for the example, the first initials have to represent the project you are working on)

Example of a kenyou-cut folder:



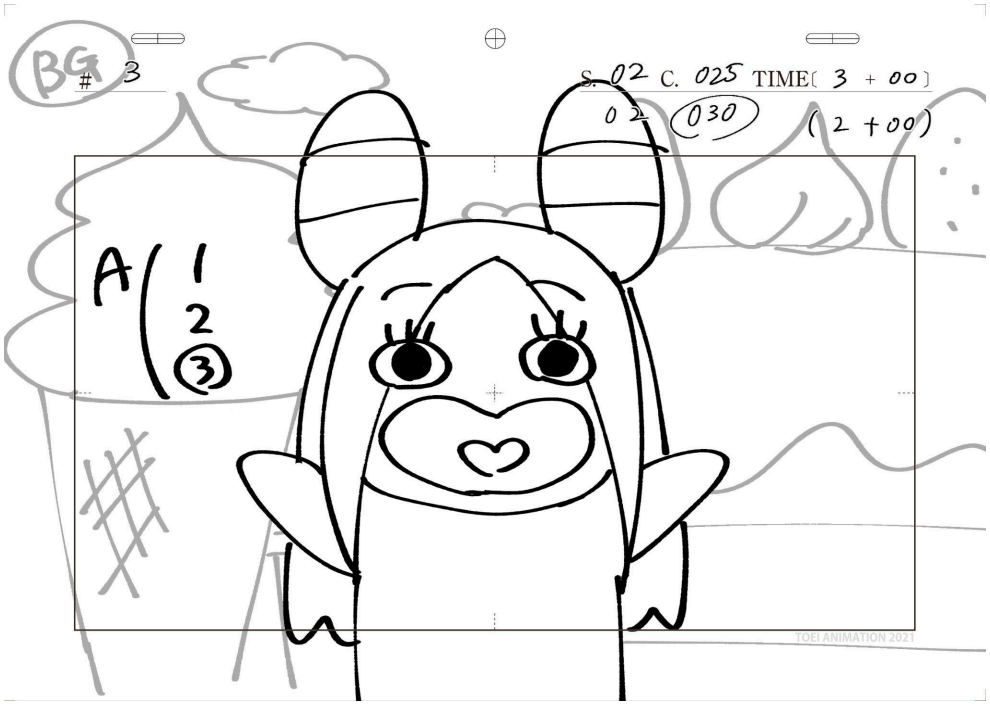
Inside the folder:

Name	Date modified	Type	Size
2gen	04/03/2025 03:26	File folder	
LO	04/03/2025 03:26	File folder	
ts_001	04/03/2025 03:27	File folder	
ts_003	04/03/2025 03:27	File folder	
ts_009	04/03/2025 03:27	File folder	
_DSB-1111-001_003_009.clip	03/03/2025 13:48	CLIP STUDIO FOR...	17,735 KB
DSB-1111-001.mp4	03/03/2025 13:44	MP4 Video File (V...	2,736 KB
DSB-1111-003.mp4	03/03/2025 13:44	MP4 Video File (V...	2,736 KB
DSB-1111-009.mp4	03/03/2025 13:44	MP4 Video File (V...	2,736 KB

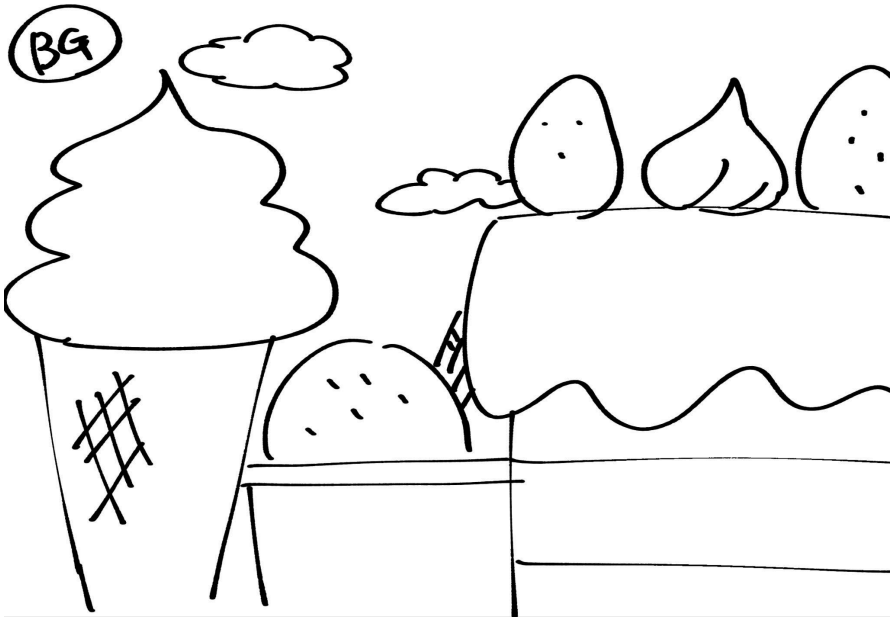
As you see, the 2gen and LO are the same, because they are linked as cuts.
The only variants are the **timesheets** and **previews**.

Example of a kenyou cut:

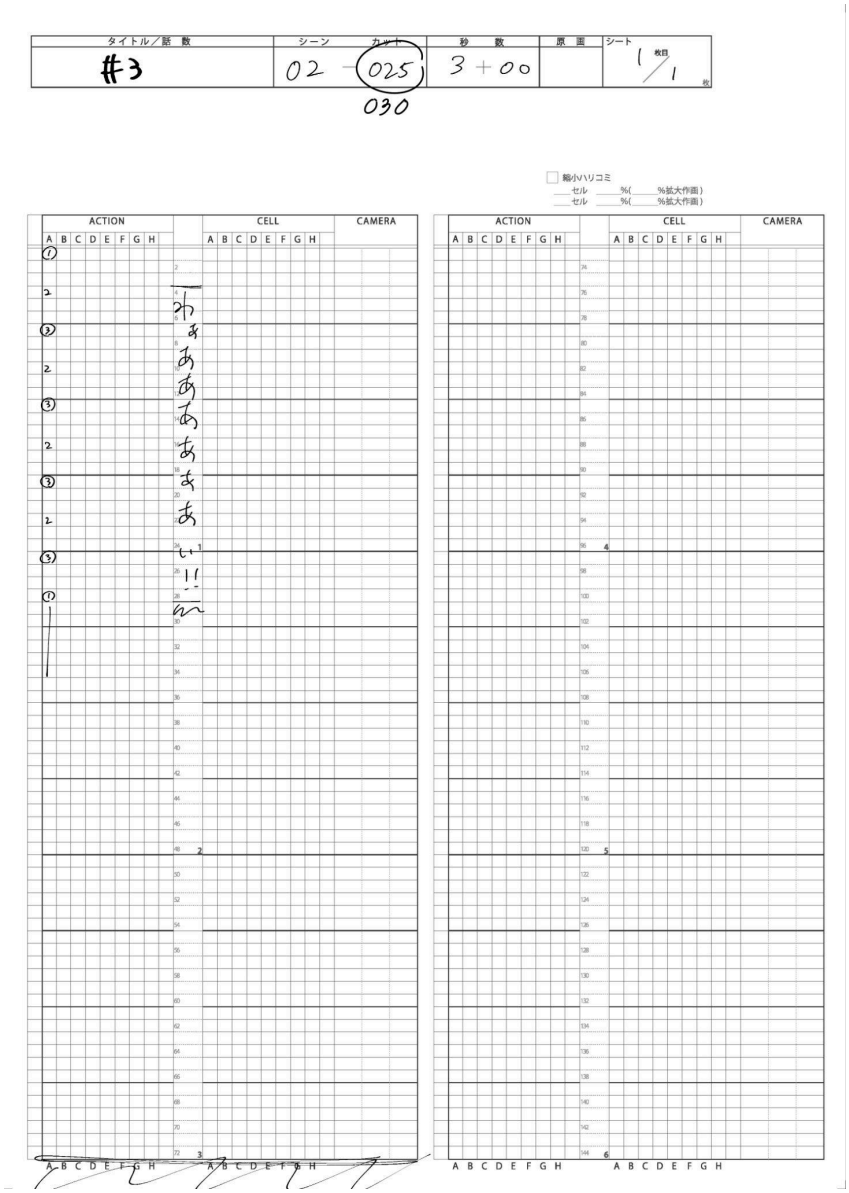
This is the **kenyou set** c-02-025_030.

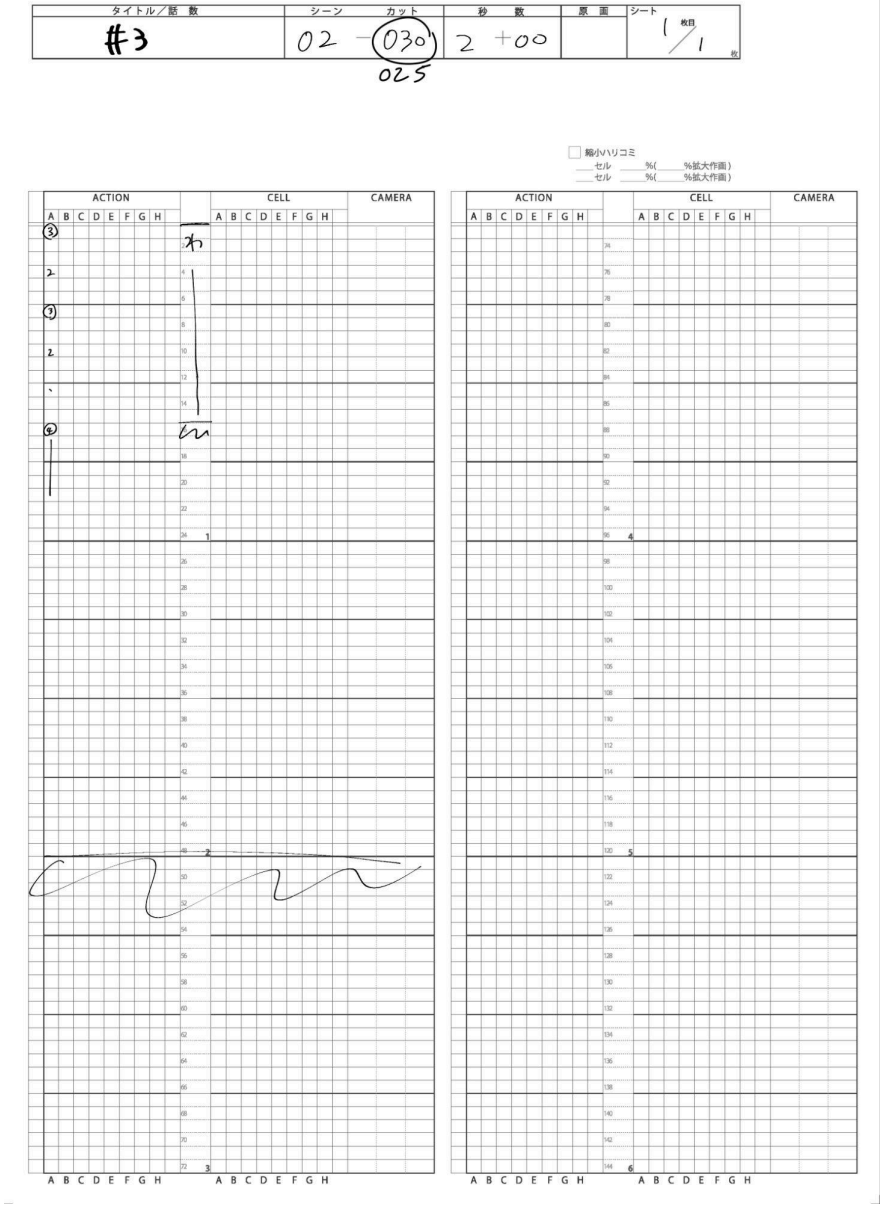


Both c-02-025 and c-02-030 include the **same BG**:



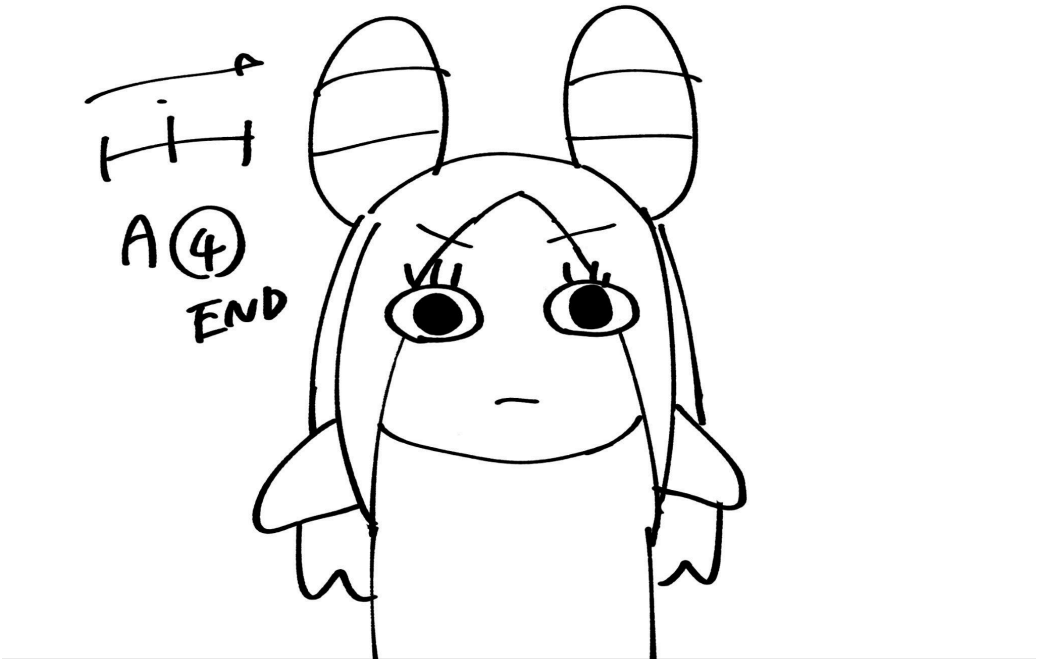
These are the timesheets for c-02-025 and c-02-030:



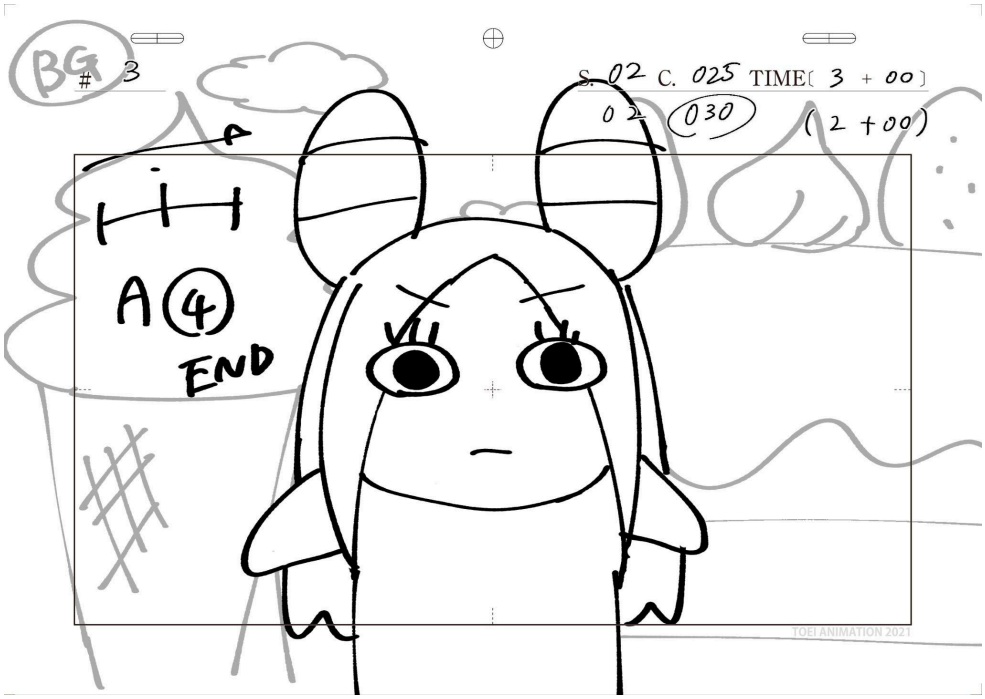

タイトル／話 数
#3
シーン
02
カット
030
025
秒 数
2 +00
原 画
シート
1 枚目
/ 1 枚
縮小ハリコミ
セル %(%拡大作画)
セル %(%拡大作画)
ACTION
CELL
CAMERA
A B C D E F G H

This cell (A3) is included in both c-02-025 and c-02-030:

This cell (A4) is only included in c-02-030, but it is the continuation of the movement from A3:

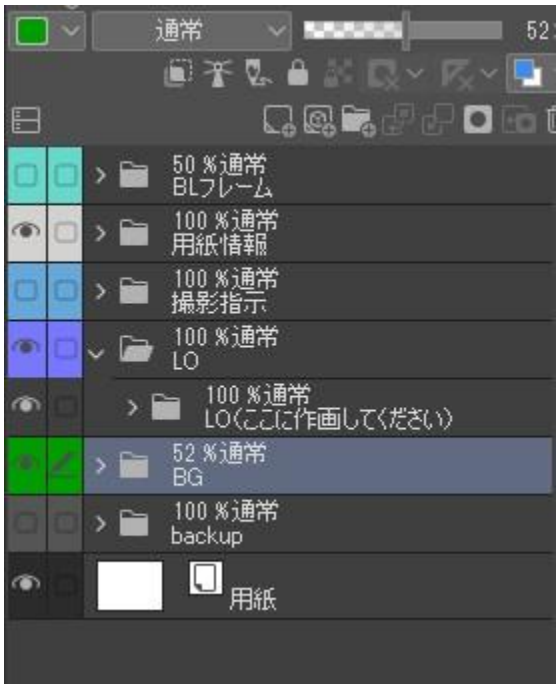


In the end the cut looks like this assembled (c-02-030):



The **same Cliptudio file** (or whatever other software you use) and workspace is used for both cuts (imagine them like being a 2 in 1 (or more depending on how many cuts are linked)).

Even the folder used for the cells is the same.



Basically, the next cut in a kenyou set, is a continuation of the previous cut of the set.

Regarding staff checks

Various staffs use different sheet colors when checking a cut, but this can vary from studio to studio, the general colors are:
Director -> Blue
Assistant director -> Pink
Sakkan -> Yellow
Sosakkan (chief supervisor) -> Green / Brown

Sosakkan corrections take more priority than sakkan corrections.

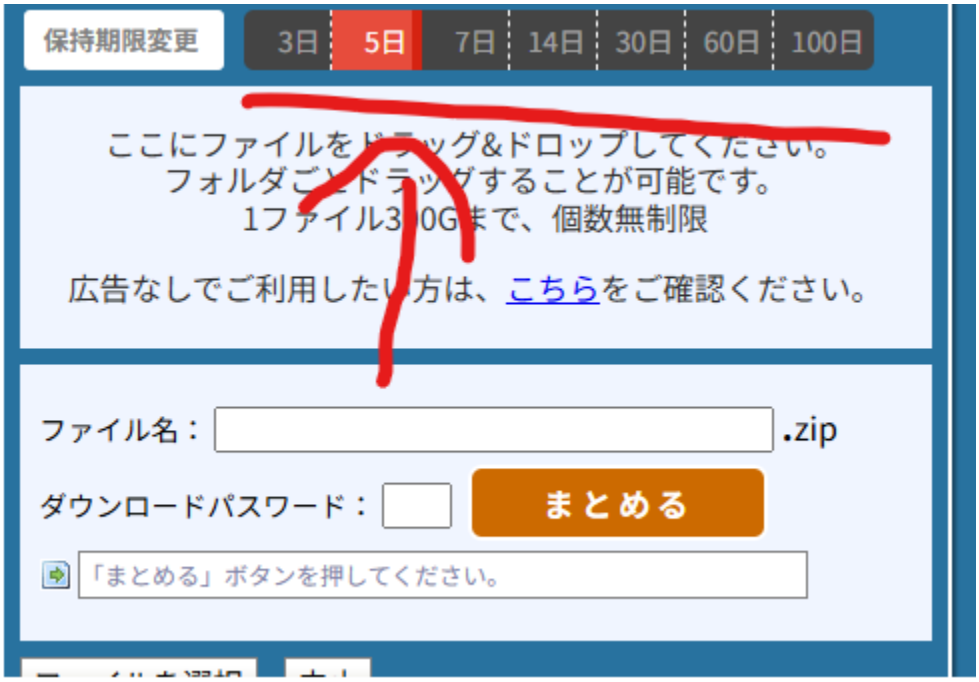
Additional production advice

File uploads:

Always upload as a ZIP file.
Have an overall folder, inside this folder have the individual cuts.
ZIP it.
(If you ZIP the individual cuts, when the production manager unzips it, all the material might be dispersed and not inside a folder, to avoid this, create an overall delivery folder)

There are several tools to use when uploading,
The most common one used in Japanese animator is Gigafile.

Gigafile has a short expiration date for uploads, but there is a way to extend this expiration date



Before uploading the file, please select the larger numbers, this is the amount of days that the file link stays valid.
So even if a production manager does not check the link within 5 days, they will still be able to come back to it later on.

Communicating with specific staffs… Pt2

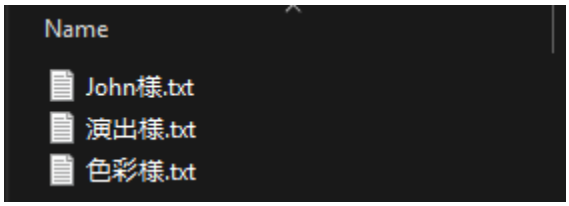
In Japanese, when you want to say “to”, usually you add 様 (sama) at the end, to indicate who the message is addressing.
When you see a director note that says 作監様 (sakkan-sama), it means the instruction is for the sakkan specifically.

Here are certain roles in the production, you can copy paste these if there is someone specific you would like to communicate with,

Director = 演出様
Sakkan = 作監様
Sosakkan = 総作監様
Assistant director = 演助様
Background / Art direction team = 美術様
Color team = 色彩様
In-betweener = 動画様
Finishing team = 仕上げ様
Compositing team = 撮影様
Production manager = 進行様
2gen person = 2原様
People checking the cells (usually during rush period) = 検査様

Or if you know the person well, you can use their name and add 様 (sama) at the end.

Creating notes text files:
You can create a text file, and then include the staff name with 様 at the end, then that specific staff will check the text note



Please do not mix up the information,
Or else the staff will be confused.

If several staffs need to see the same message you can write the file name like this:
演出様_色彩様
Add “_”

AVOID THIS PLEASE

Certain productions in the west tend to work based off “work in progress”, so it is normal for the animator to show the director the cut as it progresses and develops.

In Japanese animation this is not efficient, and will cause confusion to the production manager.

Create a rough, send it to the production manager. After that ,leave the rough alone, do not polish it.
Never create a second version of the rough, unless the production manager has given you direction to do so.

When delivering a LO, after sending it, do not keep working on it. Consider it a work that is done, unless someone gives you a retake.

Imagine it like being a ball that you pass around.
If a cut is still being worked on after the ball is passed, it is difficult for the manager and director to recall which version they were looking at and how to give directions, therefore, after delivery, leave the cut alone, until given the ball back.

Creating your own cells (that do not need finishing)

Sometimes animators want to create a certain cell, like effects, special types of drawings ect…
Themselves, without having the finishing team work on it.
In this case the cells need to be exported in a specific manner during the 2gen delivery phase.

Export the cells as see-through PNG files, and match the size to the cell size indicated by the production.
Add a note on the timesheet regarding the cell saying:
C cell -> そのまま使用、作業不要
(just an example, but it means, C cell will be used as it is, no need to work on it)

Include a text note where the title of the text is
素材そのまま使用 (use the file as is)

If you do this, the director and manager will understand that they will use your cell directly during compositing.

Short explanation about “Genzu”

Genzu (原図) is a BG LO,
The director creates Genzu based off the BG and cells given by the animator.
The BG team draw the background based off the genzu.
In the genzu, the director will indicate the number of reference images they use.
Cells to be used as reference for positioning ect.

The BG elements, such as BOOKs ect.
List of materials needed to be created by the BG team.
Precise directions about lighting, what each object represents ect.

This is mostly knowledge that a director and a background artist should know,
But it is good for an animator to understand the term genzu, and what happens in this process, in order to know what will happen to the cut.

File naming

When creating the cuts for the folders,
Please keep it clear what each folder represents, this makes it easier for managing.
At the end of the folder name, simply add:
_ROUGH (for roughs)
_LO (for LOs)
_GE (for genga/ 2gen)

When a director (enshutsu), asssitant director (enshutsu joshu), sakkan, sosakkan checks,
Usually the file name will include the initials at the end to indicate which checks have been made
_e (director)
_ej (assistant director)
_s (sakkan)
_ss (sosakkan)

A cut that has been fully checked, will usually be named like this (when given for 2gen cleaning up)

_e_s
_e_ej_s_ss
Ect… (basically means everyone checked)
After receiving this file,
Use the same folder, but delete all the _LO_e_s parts, and replace it with _GE

2gen folders !! IMPORTANT

When you receive a cut back from the manager, to create the 2gen.
Keep the same folder, do not create a completely new cut folder for the 2gen.
The reason for this is because there is a lot of information included inside the folders and timesheets that have to be kept.

When creating 2gen, simply create a 2gen folder inside the main folder that was given back to you.
Inside this folder you put the new material. But keep the overall folder as it was, so that the director can continue working on it as he planned.

(its like a canvas thats being designed by the director when they check, in order for the rest of the staff to easily understand what to do with the cut. The cut folder is like a ball travelling and gathering more and more information, not omitting information)

If you want to omit something that is inside a cut folder,
Simply create a “_old” folder inside the folder, and drag and drop files into it.
That way the files will still exist, but simply not be looked at actively by certain staffs (only director might check it if needed)

How to study and practice

The basic steps that most Japanese production take for teaching the work flow,
Do in betweens, to understand movements, as well as what materials look like
Do 2gen ,in order to understand timesheets, and LOs ect created by a person with more experience.

Study other people's materials, look at how they write their timesheets, how they do indications, how they create clean drawings ect.

By studying other people, you create a bigger inventory.

Receive feedback from the animation communities or production people, and then polish your craft as you go along different productions.

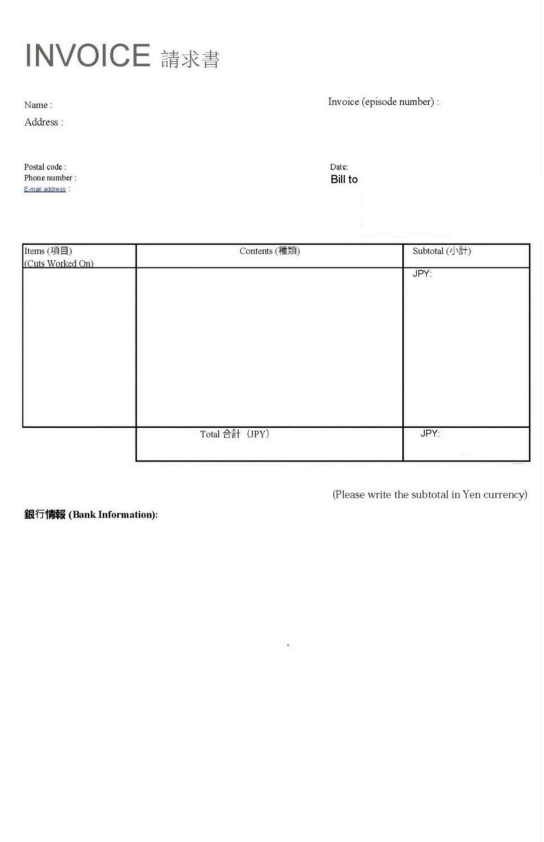
INVOICES

After finishing a production, in order to receive your payment, you send your invoice to the production manager who then sends it to people responsible for payments.
The people who are responsible of you getting payed are the production leaders (usually line producers), if a production manager is not able to get in contact with you, you should contact the studio as they are ultimately responsible for paying you.

An invoice is a document where you write the details of the “items” you worked on, who it is billed to, and how much the amount of money is.
Items = LO or 2gen ect…

Here is an invoice sample

[redacted]



INVOICE 請求書

Name :
Address :

Invoice (episode number) :

Postal code :
Phone number :
E-mail address :

Date:
Bill to

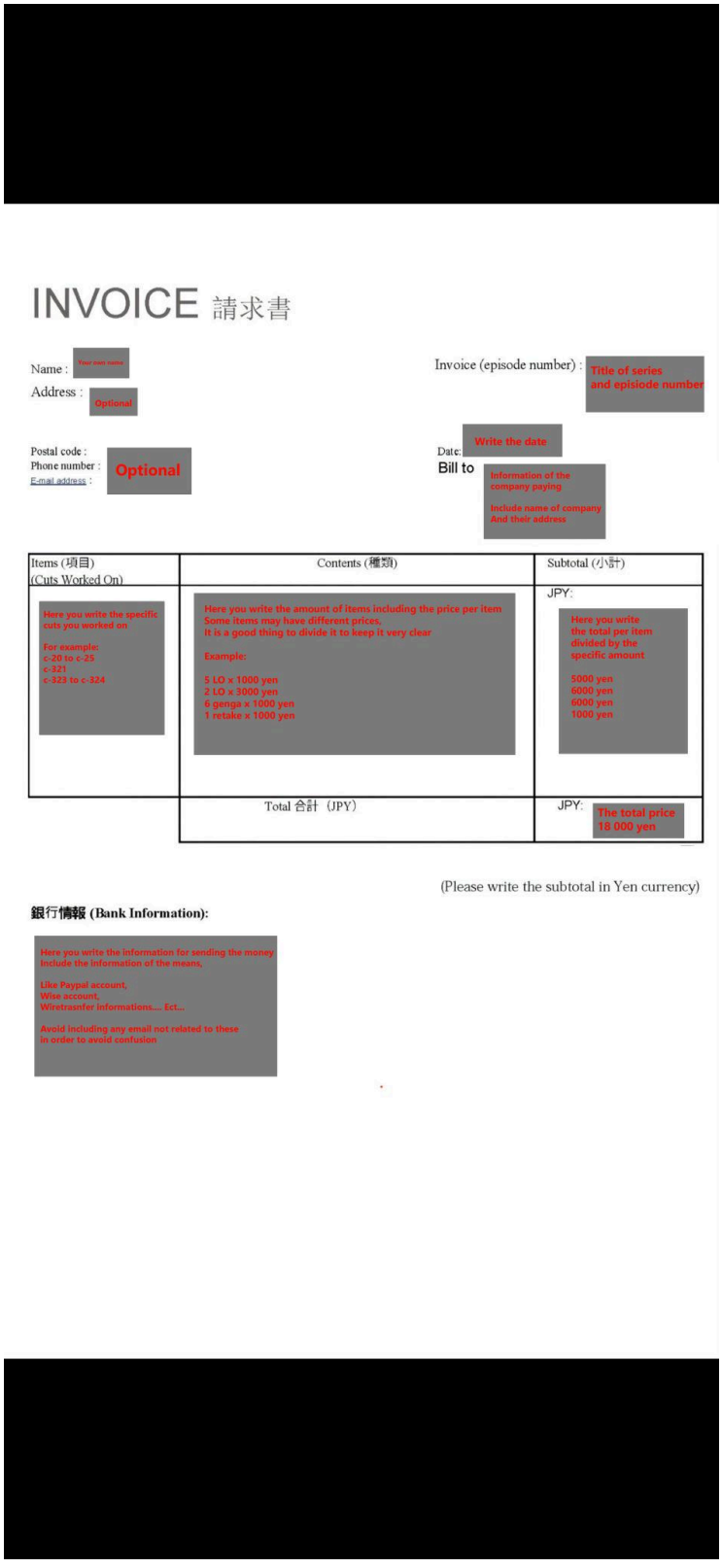
Items (項目) (Cuts Worked On)	Contents (種類)	Subtotal (小計)
		JPY:
	Total 合計 (JPY)	JPY:

(Please write the subtotal in Yen currency)

銀行情報 (Bank Information):

[redacted]

There is no set format for the invoice, but there is some general information that an invoice needs to include



INVOICE 請求書

Name : Your own name

Address : Optional

Postal code :
Phone number :
E-mail address : Optional

Invoice (episode number) : Title of series and episiode number

Date: Write the date

Bill to Information of the company paying

Include name of company And their address

Items (項目) (Cuts Worked On)	Contents (種類)	Subtotal (小計)
Here you write the specific cuts you worked on For example: c-20 to c-25 c- 321 c-323 to c- 324	Here you write the amount of items including the price per item Some items may have different prices, It is a good thing to divide it to keep it very clear Example: 5 LO x 1000 yen 2 LO x 3000 yen 6 genga x 1000 yen 1 retake x 1000 yen	JPY: Here you write the total per item divided by the specific amount 5000 yen 6000 yen 6000 yen 1000 yen
	Total 合計 (JPY)	JPY: The total price 18 000 yen

(Please write the subtotal in Yen currency)

銀行情報 (Bank Information):

Here you write the information for sending the money Include the information of the means,

Like Paypal account,
Wise account,
Wiretrasnfer informations.... Ect...

Avoid including any email not related to these In order to avoid confusion

In Japan, the system is that you receive the payment a month and a half after the responsible receives the invoice (about one and a half, depending on the date that the invoices gets to the responsible). The manual says one and a half, but it is just an estimate, it could be a different amount of time, it is a good idea to confirm with the production manager.
It will also depend on the date, as there is a specific date to send payments around.

If it is an international payment, the payment transfer might take a little bit longer.

It is a good idea to send the invoice as a PDF,
Avoid online invoice links that expire after a certain amount of time.
(Remember to use the gigafile tip of keeping the expiration date longer)

The production manager might get back to you to change certain things on the document, as there are specific information that the administrative people need on an invoice officially.

Always clearly state your means of payment, as well as the account,
Paypal, Wise, WireTransfer ect…
NOTE: Discuss this beforehand with the production manager to see if the studio is able to send the money in the means you are most comfortable with.

Payment timing,
Usually production managers are very busy dealing with several production factors,
So most of the time the payment is handled after the episode has been completed.
But if you are in need of the payment earlier, it might be a good idea to discuss it with the production manager beforehand so that they are aware.

What most production managers do is that they leave the payment until after the end of the production, so they can gather all the invoices at once and avoid discrepancies.
Therefore it is good to actively contact and let the production manager know about your situation if needed.

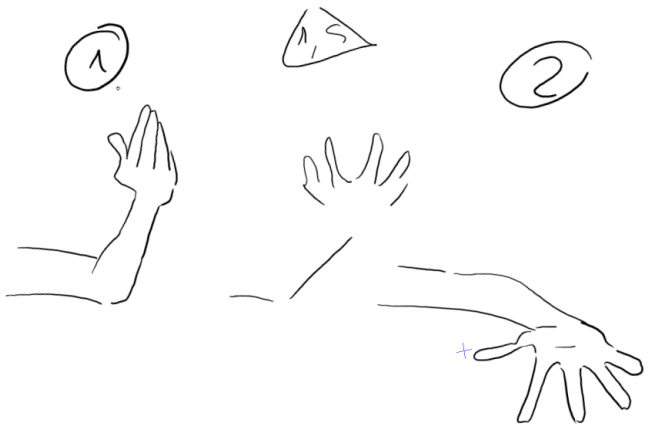
Glossary for certain terms and basic rules:

・Timesheet and cell indication
Circled numbers = Key frame
Triangle numbers = In-between reference
Points on the timesheets = In-betweens (key frame animators do not draw the in-betweens in Japanese animation)
IMPORTANT: Always circle (or make a triangle) around the number of the keyframe. Both on the
timesheets and on the LO.

・In-between references
The frames drawn by the key animator, which are not key frames, but simply used as reference for the in-betweeners to understand how to draw certain in-betweens. When you want to be more precise with the in-betweens, you may add this reference, and use a triangle to name the cell. Usually these cells are not named by number, but by letters. (For example: Aa, Ab, Ac)

Do not add details to these drawings, make it just an estimate. By doing this, the supervisor will not have to add corrections, and the in-betweeners will be able to maintain the balance and proportions of the correct key frames.

Example 1:
Key frame
In-between reference
Key frame



Example 2:
Key frame
In-between reference
Key frame

・Outside the frame part of drawing / reference for in-betweeners
Sometimes the in-betweeners need to be guided about what a previous drawing looks like outside the frame, in order to draw the continuing movement.

In this case, you can draw the reference, roughly without precise details, outside the main frame. This is shown in this example.

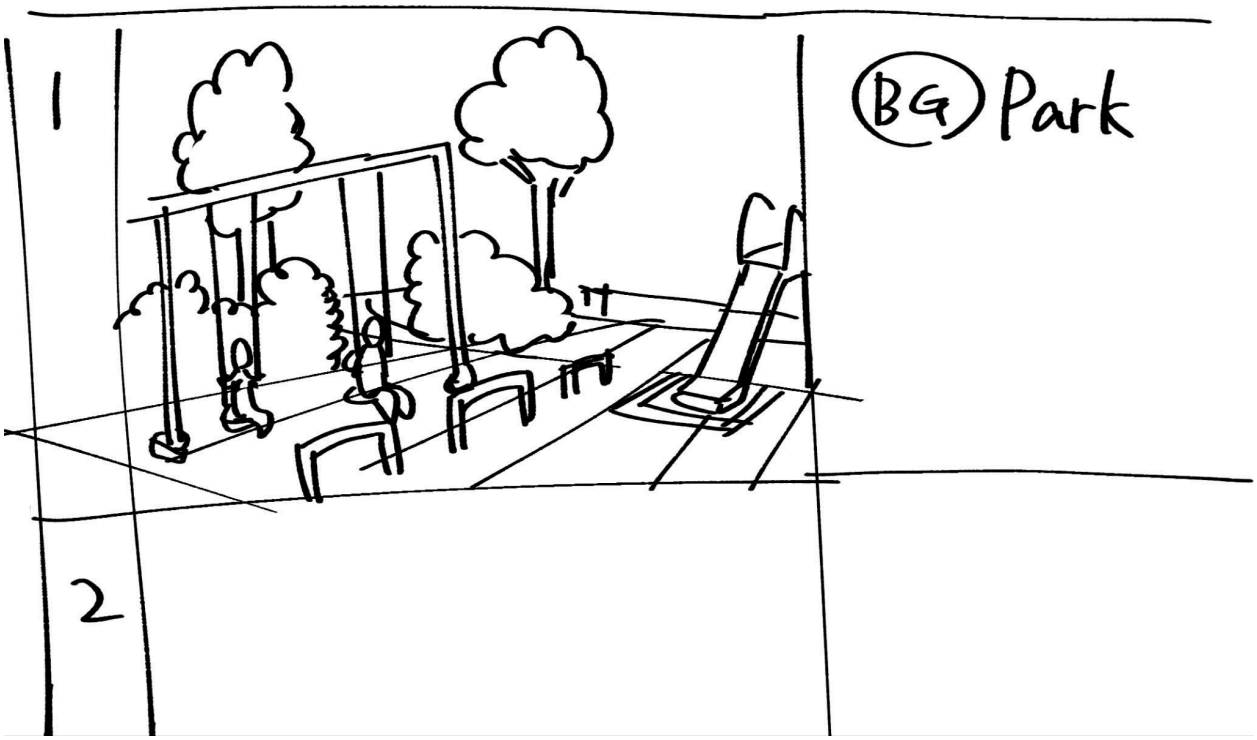
・BG and BOOK
BG is the layer furthest away from the camera.
Only draw the LO of the BG, the final product will be created by the BG team.
BGs do not move. Sometimes there are several BGs on the same cut, to cut between different BGs for a certain effect.

BOOK are the layers that come after the BG.
Like the BG they will be created in the end by the BG team.
BOOKs do not move, they are usually made to slide, or layered under and over cells.
BOOK can also be placed in front of character cells.

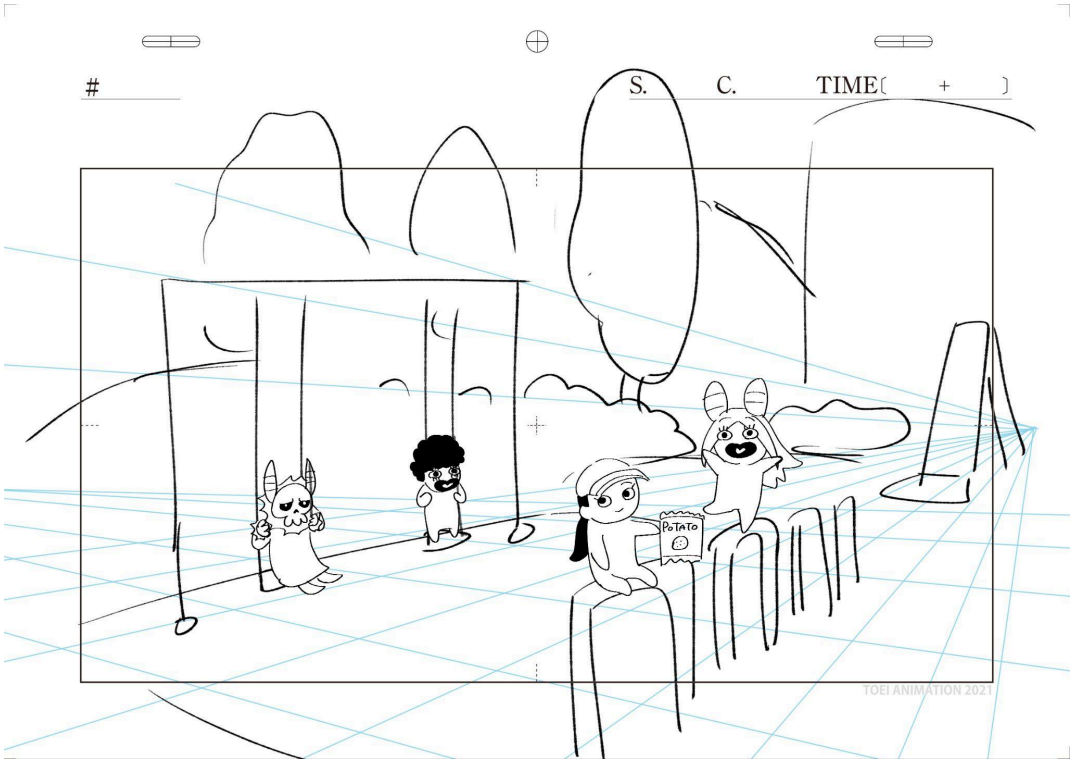
BOOKS are numerated as BOOK 1, BOOK 2, BOOK 3 ect…
BOOK 1 is the closest to the BG, the rest are closer to the camera.

Example case of an acceptable and not acceptable BG delivery.

The storyboarded cut of the example case:



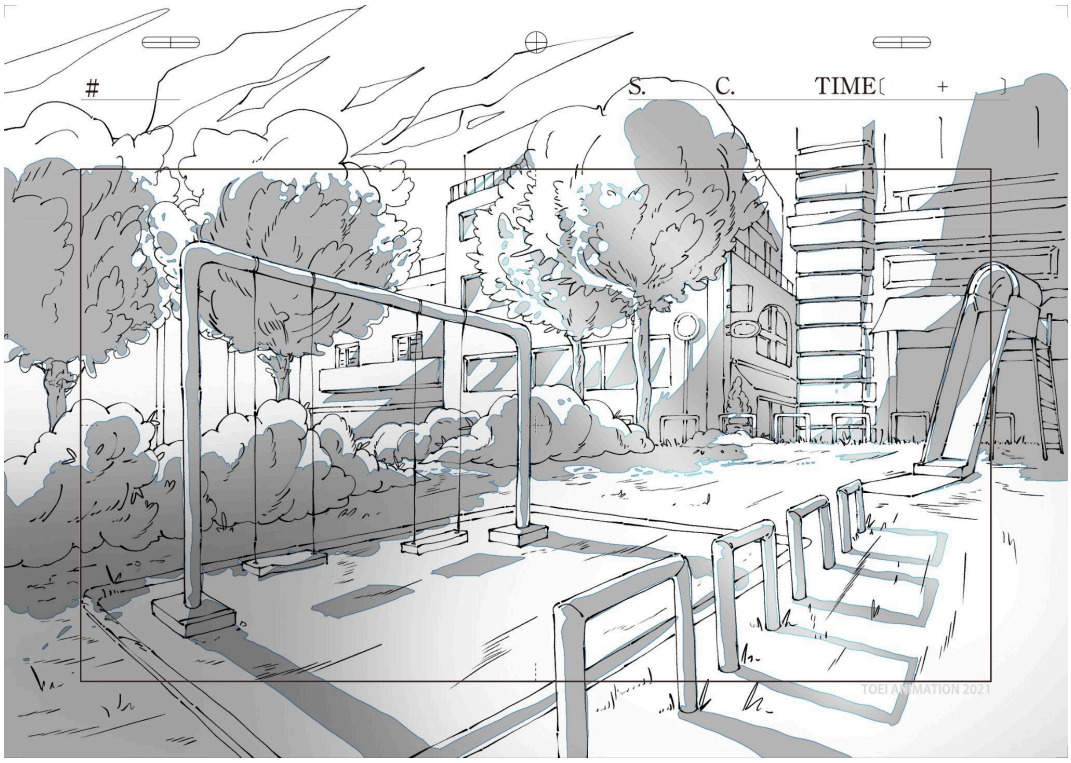
BGs that are not acceptable:



This is too rough, the BG team will be drawing on top of the BG.
This type of BG is lacking too much information, and the perspective is not clear.
This will be sent back as a retake.

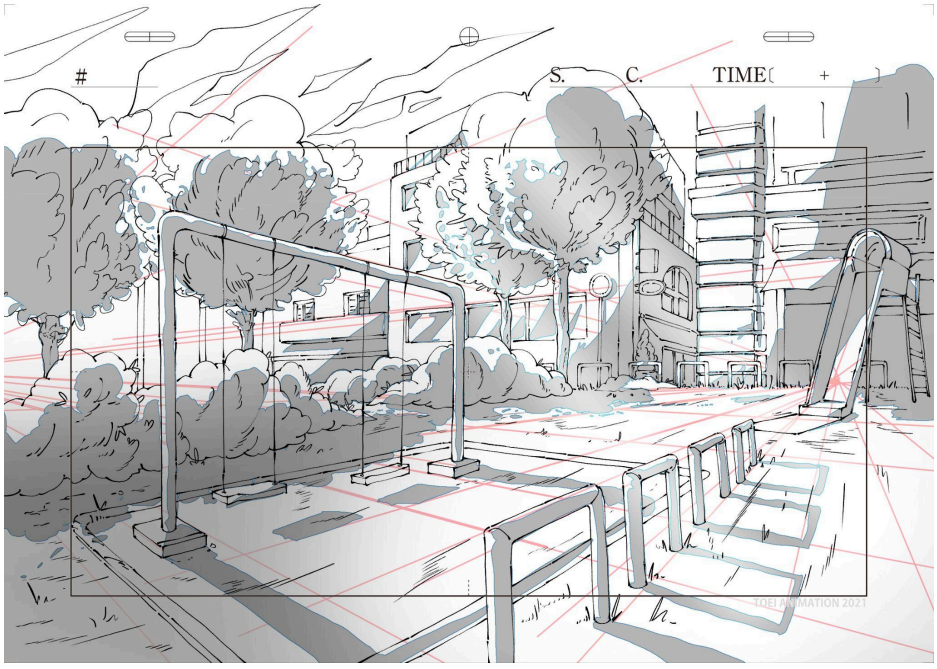
There are not enough details. The BG team as well as the Sakkan will have a hard time determining where each component of the object is located exactly, this also affects the cells perspectives and how the cells interact with the BOOKs and BG.

Quality to aim for in BG drawing



This is the type of BG that is expected, with this much information, the BG team will understand how to draw the BG.

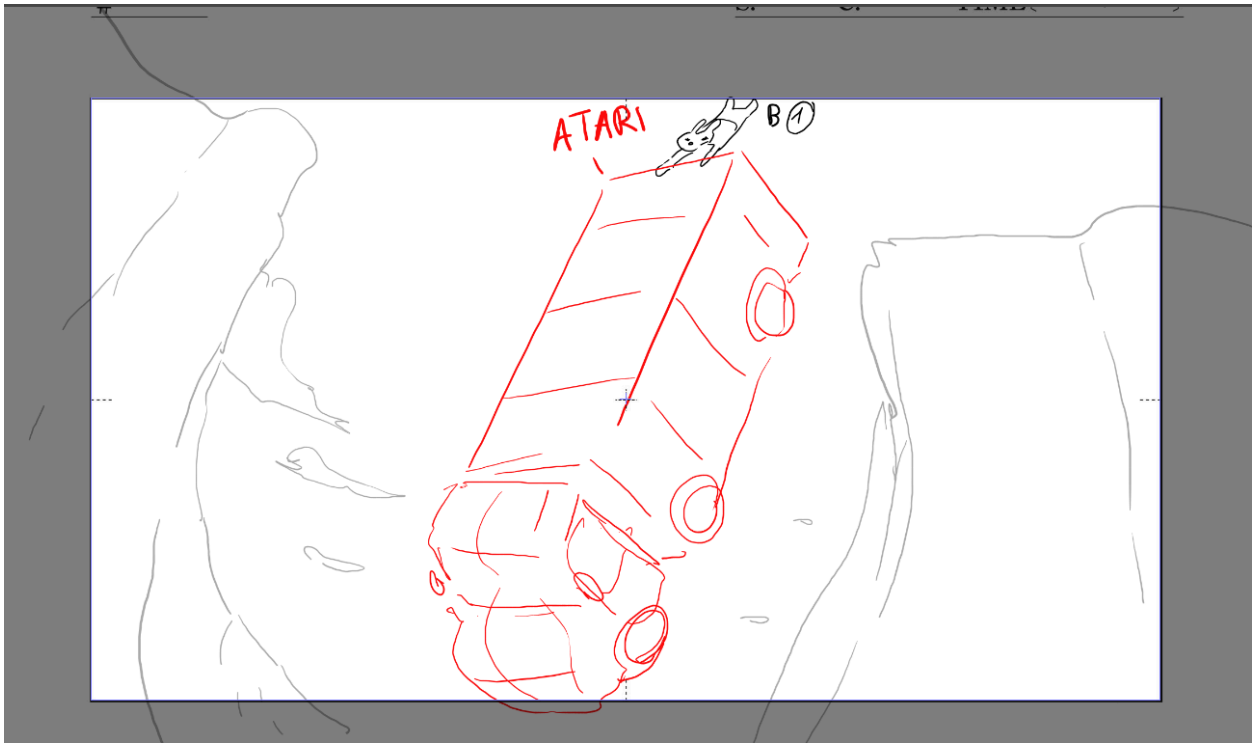
You can add perspective grids as well on a different export just to guide everyone involved



・CG atari

When CG will be included in a cut, simply draw the silhouette of the CG layer and where it is headed to. No need to draw details.

Write “CG atari” on the LO by the silhouette that you have drawn so that the rest of the team understands what is represented.



・CELL

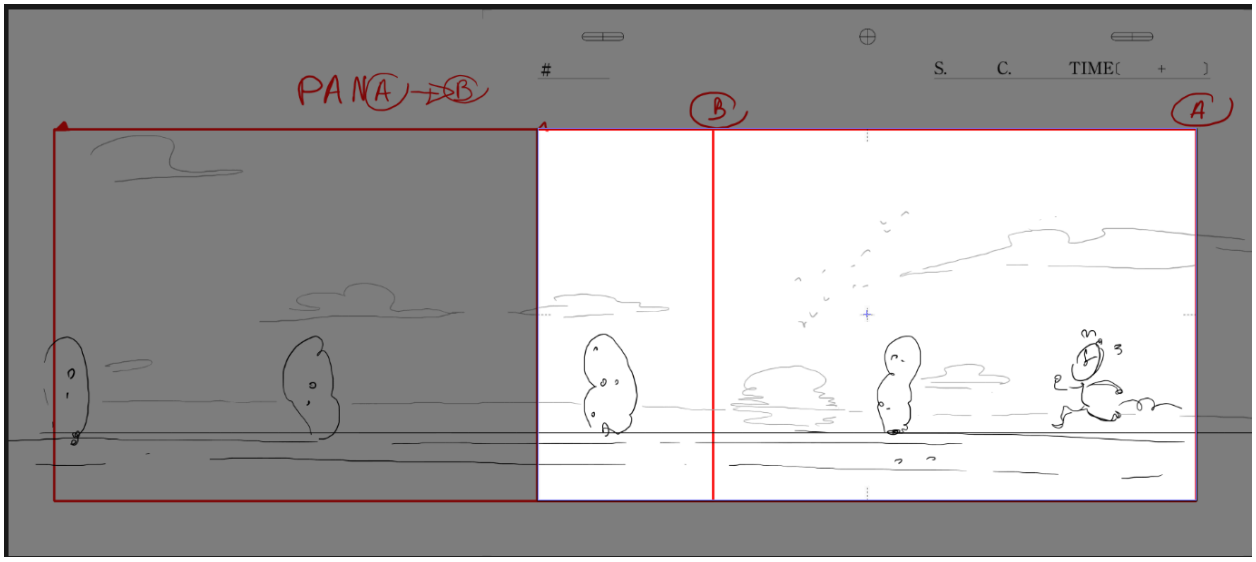
The layers that will be created by the in-betweeners during the finishing stages.

This is where you have animation, or drawings that do not look like BG and BOOKs.

(Different from certain western animation production, a cell includes not only the lines, but also the colors and the shadows)

・Camera work is presented with a camera frame and in the timesheets

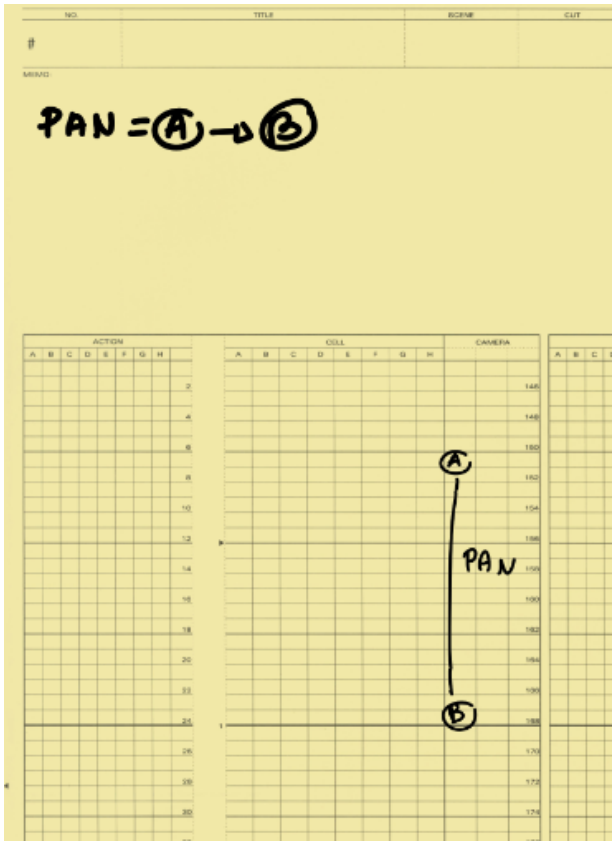
PAN



Include a PAN cameraframe.
On the timesheet, indicate the timing, and with letters from where to where the PAN will move

TIP: use different colors for each letter, this will make it more clear than having the same color.

Timesheet indication



・Regarding cell size
The BG is big -> OK (since we need to do a PAN around the BG)
For the cells -> They need to be A4 size, do not draw it too big if not needed

The camera will make a PAN all around the space, therefore the BG needs to be big.

The cell should remain A4, unless it is necessary to make it big.
Depending on the supervisor, the cells will be printed out, if the cells are too big, the staff will have a hard time checking the cuts.

・Tome / 止め
Cells that do not move.
If you write this on the cell numeration (and on the timesheet) the rest of the team will understand that no other sheets (in other words, data or paper of remaining cells) are missing.

・Cell order
A cell is the closest to the BG.
B, C, D ect… the further away you go from A in the alphabet the closer you are to the camera.

・Haido / 背動
Literally means “moving background”.
These are cells that represent animated backgrounds. For example: ground, buildings, trees ect…
Do not draw these as BOOKs, draw them as cell.
You do not have to, but if you want you can write “Haido” on the first cell of such a layer for the rest of the team to understand your intention.

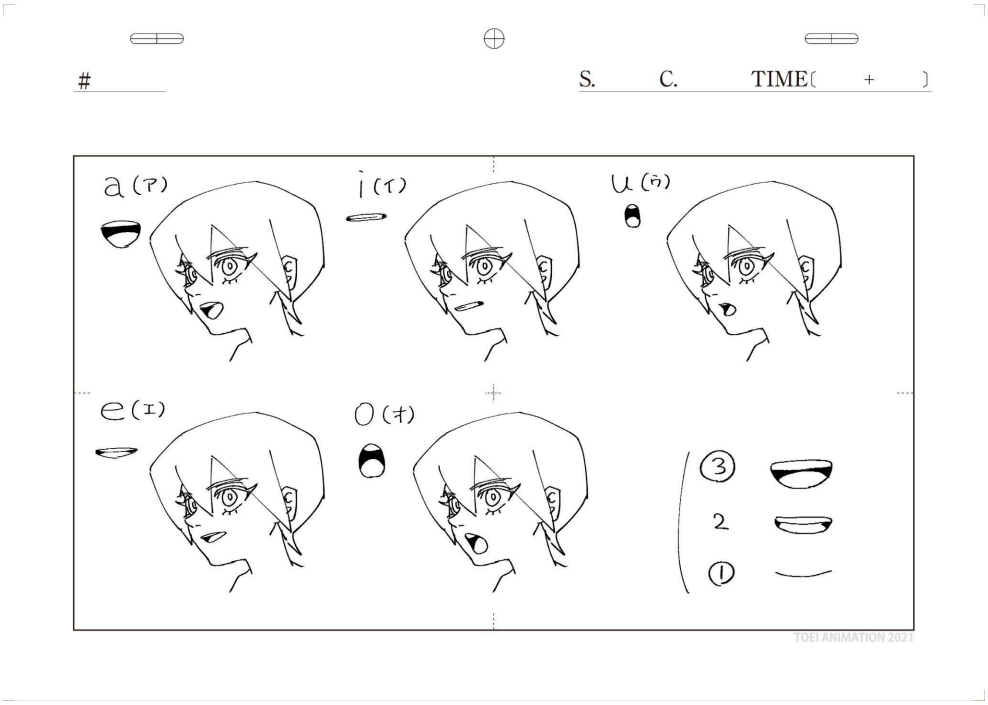
・3 cell lip synch
For simple lip sync (the traditional way), only 3 versions of the mouth are drawn and used to match with the dialogue.
Open, middle and closed.
Open = Aki kuchi (開き)
Middle = Naka kuchi (中)
Closed = Toji kuchi (閉じ)

Abbreviations you can use for the rest of the staff to understand you,
Open = aki
Middle = naka
Closed = toji

Draw these on a different layer from the main body.
Make sure that there is nothing on the layer under when the lip synch happens.
Do NOT draw the middle mouth. The in-betweeners will draw it. This is common knowledge in the Japanese animation industry.

・Lip synch, vowel patterns
In the Japanese language, every letter consists of one of the 5 main vowels:
a, i, u, e, o
(Except for the letter ん / ン = n)

Basically,
ka, ki, ku, ke, ko
sa, shi, su, se, so
na, ni, nu, ne, no
ect…



Therefore, when drawing the lip sync in a more detailed way, you can refer to these images for the mouth shapes, depending on the vowel of the letter.

These are the shapes that most people in the industry recognise as the lip synch for these vowels.

・Size of paper used
If the animation supervisor draws analog (on paper), please be careful not to make the paper too
big, because it will get printed out eventually.
A3 max.
If the animation supervisor is digital, you do not need to mind this, unless you are told so by the project team.
IMPORTANT NOTE: Make sure to ALWAYS have the peg bars at the top!

・Tsume Shiji (Animation chart)
The indications the animators include to the in-betweeners to check how to draw the movement. Include the tsume shiji directions for the first key that is concerned by the specific tsume shiji drawn.
(For example if you have marked A1 to A4 tsume shiji, only note it on the A1 key. If you have then continued and marked A5 to A7, only note it on the A5.)

NOTE: In the japanese system, this grid is only written on the first key frame, so for the in betweens of 1 to 2, only include the grid on the first key frame.

Here is an example of a hand going from the first key frame to the last key frame of the movement.
The example is written from an in-betweeners perspective, so the key frames are called A1 and A3, because there will be an in-between called A2.

Next there are two different grids, to show the two patterns that can be created for the in-between depending on the grid:

・Atari
Explained in CG atari, but this can also be used for things related to compositing (for example if cherry blossom leaves or rain will be added through compositing).

Or simply a guideline of something.

・Harikomi
Usually used in labels and patterns.
For example, a bottle label.

When you animate a bottle, you do not have to animate the label on it. You can write “harikomi” on the label and the compositing team will include the label via compositing.

This goes for objects with patterns, such as doors ect…

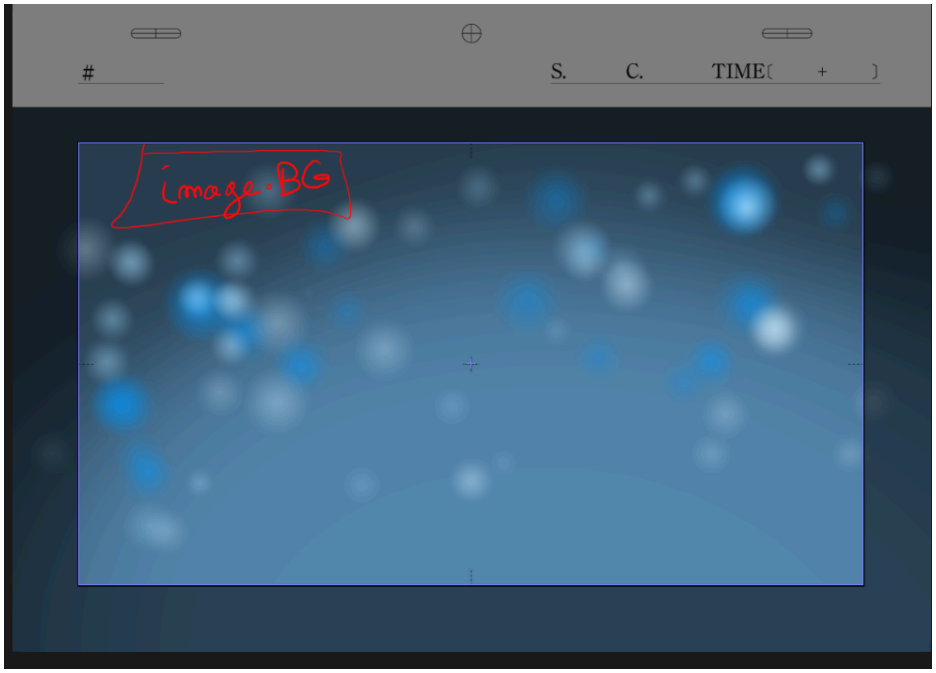
But this needs to be explicitly stated at the meeting or on the storyboard before you decide to do a harikomi.

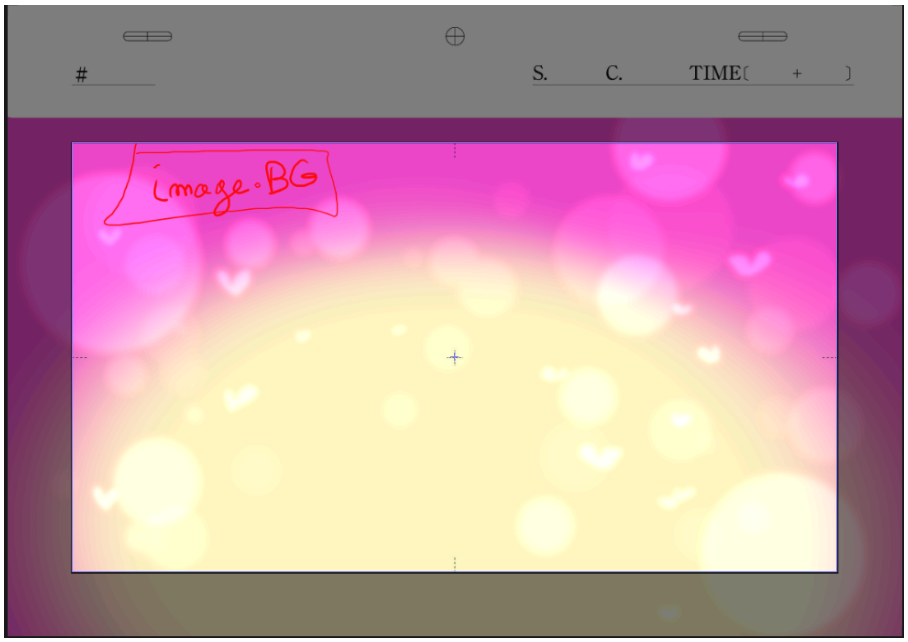
Write harikomi on the space where the pattern is to be added.

・Nabiki (Overlap (flapping movement))
The flapping movement caused by the wind.
Usually this is used for hair, trees, clothes ect…
This term will often be used in Japanese, so it is good to know this word.

・Image BG

A type of background that is not actually present on the scene of what is happening.
Usually this is used to express a mood, atmosphere, thought or emotions.
For example:
When someone feels really good, or in love, bubbles and glitter is often used.
When someone feels really sad, dark painted colors and a dark cloud is often used.
In explanation scenes image BGs are often used.
This term is often difficult to translate, so it is good to know it.





・Harmony cut
When a cut looks like a painting.
The method to creating this type of cut differs, therefore ask the director how this should be done.

・Which colors to use when drawing a LO
BG and BOOKS = cool colors (for example: Blue)
Cell = warm colors (for example: Red)
Usually directors do not mind this very much. But people latter in the process might have an easier time by dividing colors this way (such as the BG team)

For colors of shadows on cell,
The colors are usually divided into these:
Shadow = Blue type of color
Highlights = Yellow type of colors
色TB (Iro TB) = Red type of colors
(Iro TB = When you want to indicate one part of the cell outline is supposed to be colored, not in black, but in the same color as the cell object)

・Advice when drawing 2gen
Draw the whole cell, even the part that is hidden under another cell or BOOK (we need the full cell)

・T-Kou
The part that shines or glows.
If you write T-Kou on a cell, the rest of the team will understand where you want the glow to Happen.

This term is often used not translated, so it is good to remember this word.

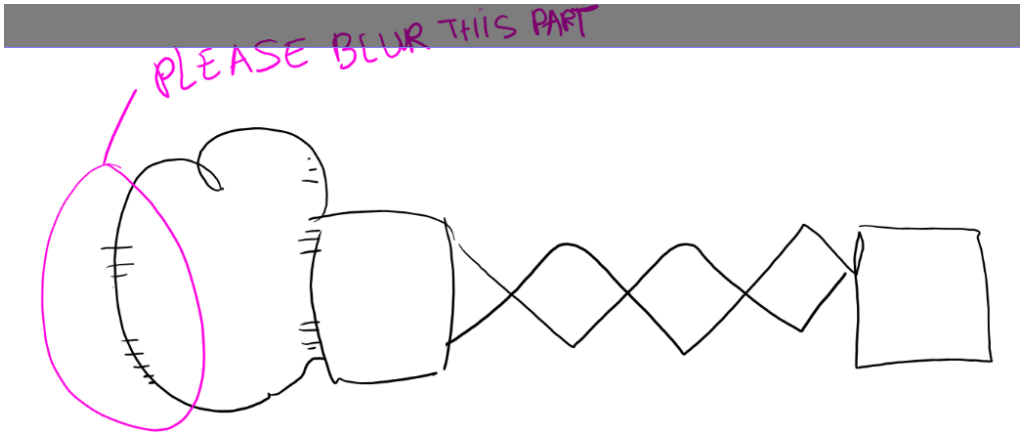
・Ryu-Hai 流背(speed line BG)
The word for a BG with speed lines on it. Please write “Ryu-Hai” on the BG layer (and timesheet)
so that the BG team understands it.

・Speed lines 集中線/ Stream blur
These speed lines are cells, often used with 3 repeated frames.
Shuchu Sen (集中線) is used for the lines that are concentrated to the center (usually found in Japanese comics).

The stream blur, looks a lot like the ryu-hai, because it is coming from the side, but uses the cell repetition technique to add movement to the lines. (Used when characters move fast, for example)

・Tacchi / タッチ (Touch)
These are the sharp lines you often find in manga. Usually used for wounds, or to express speed in a movement. They are not 集中線 (speed lines)、they have a different function. Therefore it is good to know this word as well.

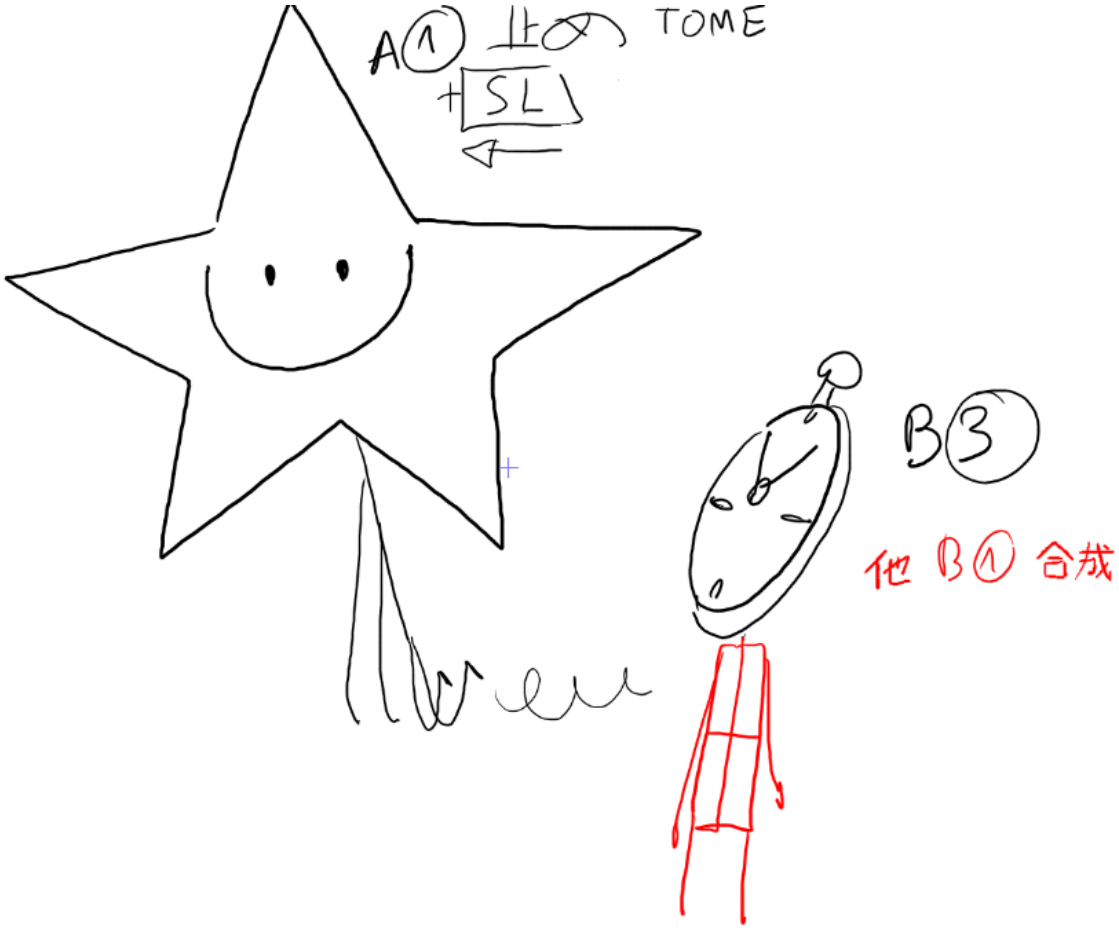
There are instances where you can draw the tacchi with a brush, or draw them normally and then indicate to the compositing team to blur the lines as seen in the example below:



・**Gosei 合成/ Dou-Trace 動トレース**
When one part of the cell is not moving / when you reuse a part of a previous drawing.

If for example, only the arm of a character is moving, and the rest of the body is not moving, You draw the body on the first frame, and for the remaining frame you only draw the arm that is moving. The body will be drawn as a red silhouette for the rest of cells.
Write Gosei A1 (if you want the in-betweeners to trace from the A1 cell) inside the silhouette, or Dou-Trace A1.
Gosei = Copy paste technique
Dou-trace = Tracing technique (redrawing the first drawing)

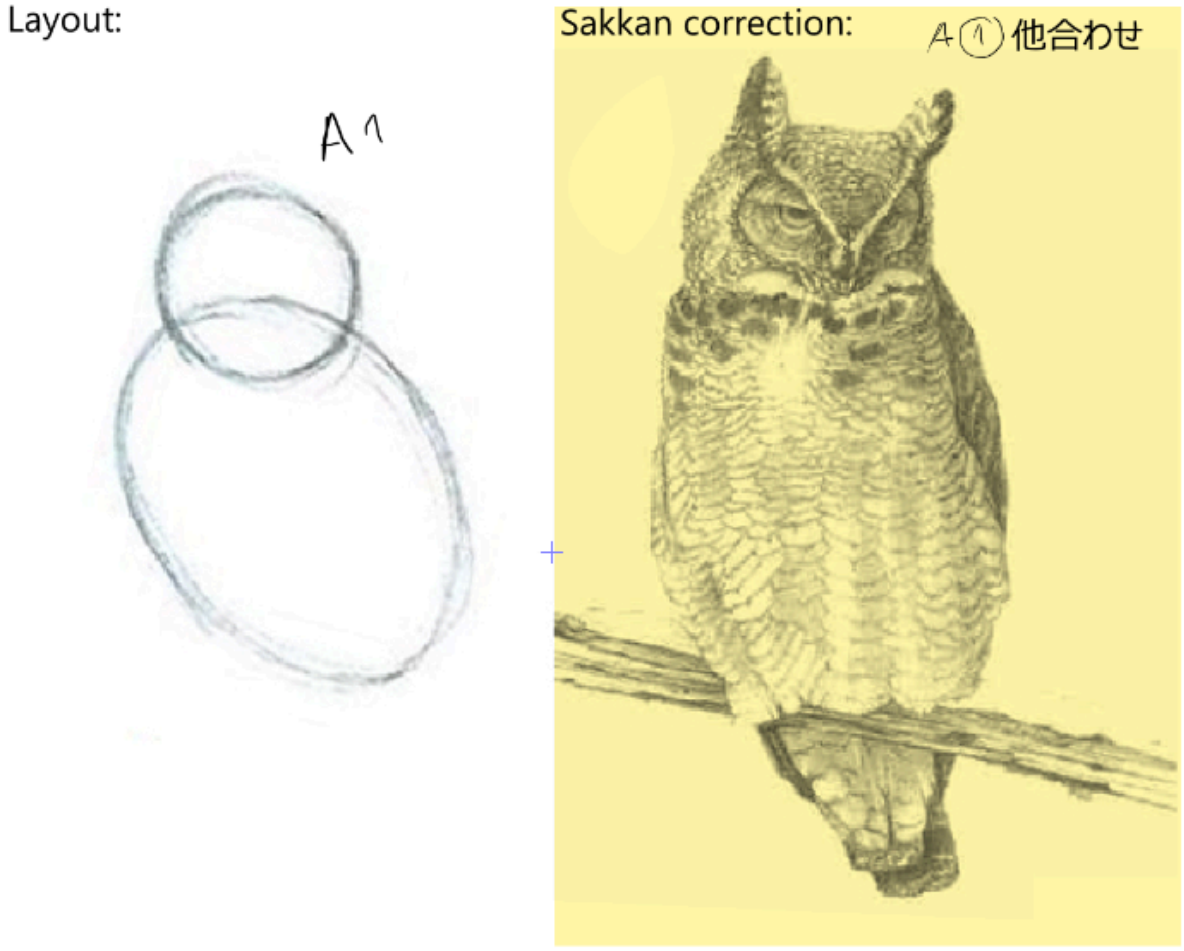
You will often see the letter 他(hoka) connected to this indication. Hoka means “other”, meaning that the “other parts” of the cell should be taken from the A1 cell.



・他合わせ**(hoka awase)** -> When an animation supervisor uses this expression !!
Meaning = Match other cells with the corrections.

The animation supervisor often does not have time to put corrections onto every cell, therefore they will often add just a few corrections and write this sentence.

When they write this, they are asking you to match all the proportions and drawing styles of the other cells which do not have corrections included, in accordance with the corrections the supervisor has put.



・セルバレ/ cell bare (=out of bound)
This is when one part of the cell moves into frame, and it is missing one part of it (for example the legs)
Often with compositing, the cells get moved around, or through camera work, depending on what
the director wants to do with the cut.
To avoid this type of incident, draw the cell fully, even the part that is outside the frame.

・Repeat / Loop movements
In TV anime (unlike most movie animes), it is important to save costs.
Many cuts are meant to be simple. Therefore, instead of drawing a movement that keeps continuing (for example: A1, A2, A3, A4, A5, A6, A7),

You should use the loop method, and simply recycle the cells for a movement (for example: A1, A2, A3, A2, A1, A2, A3)

For cuts that are meant to showcase a special scene, more complicated and dynamic animation is allowed, but before making such a decision, it is a good idea to consult with the director and production manager. (They are given orders from the higher ups on how many frames they are allowed to use per episode, therefore they need to manage this number)

・In-between references
The frames drawn by the key animator, which are not key frames, but simply used as reference for the in-betweeners to understand how to draw certain in-betweens.
When you want to be more precise with the in-betweens, you may add this reference, and use a triangle to name the cell. Usually these cells are not named by number, but by letters. (For example: Aa, Ab, Ac)

Do not add details to these drawings, make it just an estimate.
By doing this, the supervisor will not have to add corrections, and the in-betweeners will be able to maintain the balance and proportions of the correct key frames.

・Rolling method

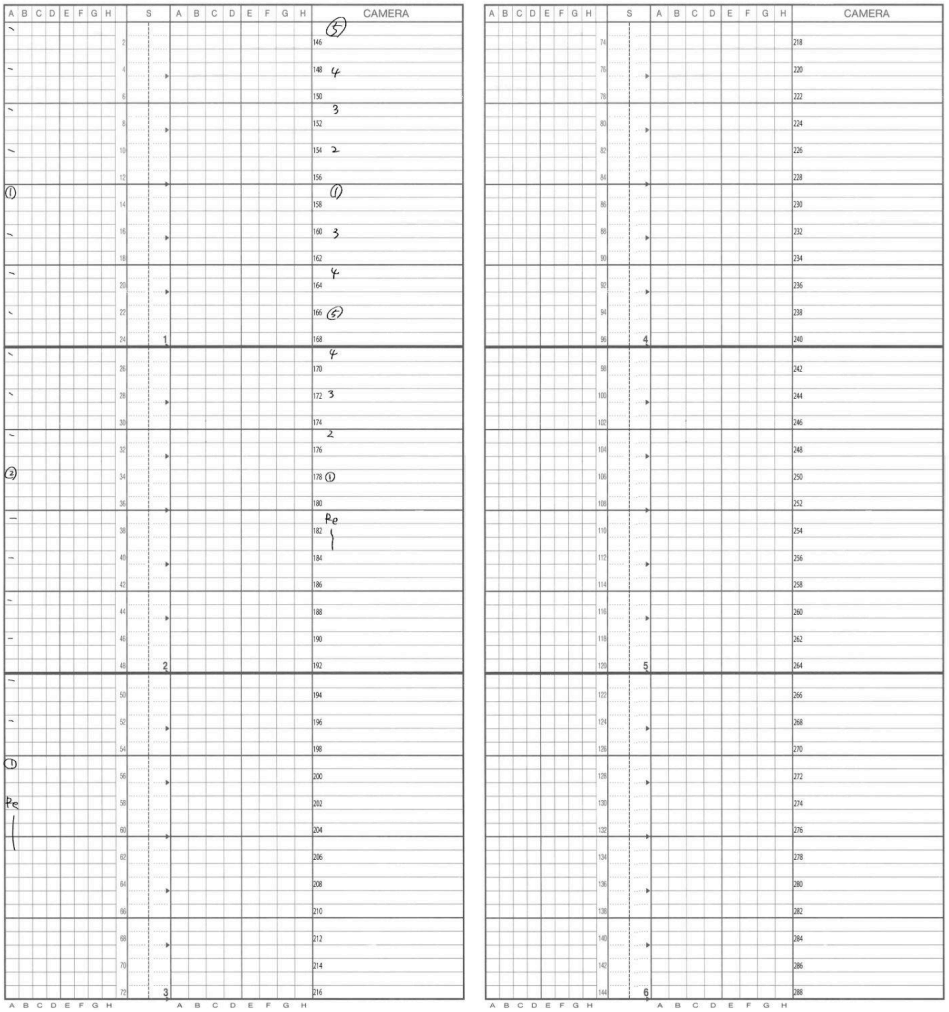
For certain walking sequences, the rolling method is preferred, as it saves costs. It is also easier to create an easy lip synch for a walking character by using the rolling method and the 3 cell lip synch method together.

The rolling method is the loop of a walking movement.
Create the cells that should loop.
Add a rolling indication on a separate layer (or the very first cell of the LO) to indicate the rolling axe (basically which space the compositing team should make the cell move). Indicate the rolling on the timesheet as well, on the camera column, by drawing a line and writing “rolling” for the time space the rolling occurs.

A Rolling LO

On the right side in read ローリング (=rolling) includes the axe to be notated on the timesheet.
The line on the left (left side of arrow pointing upwards) indicates the space until which the rolling happens. Remember to indicate this as the **highest point**.
The number “1” on the axe on the right side indicates the **lowest point**, the “5” indicates the **highest point**.

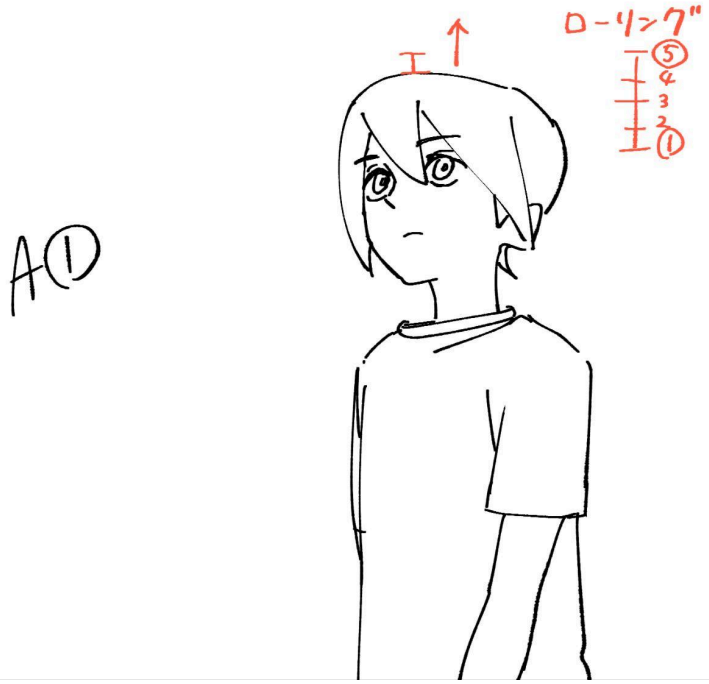
Here is the timesheet for the cut,



The timing of the rolling is indicated on the camera column via the numbers shown on the LO.

(The rolling axe, including the guideline of the LO, include this in a CAMERA folder, as this is what will be used by the compositing team to measure the movement).

Here are the cells delivered for this rolling movement,



These will be repeated throughout the cut.
Certain movements are easier to create by using this type of repeat+rolling movement, therefore discuss actively which method to use with the director if you are in doubt.

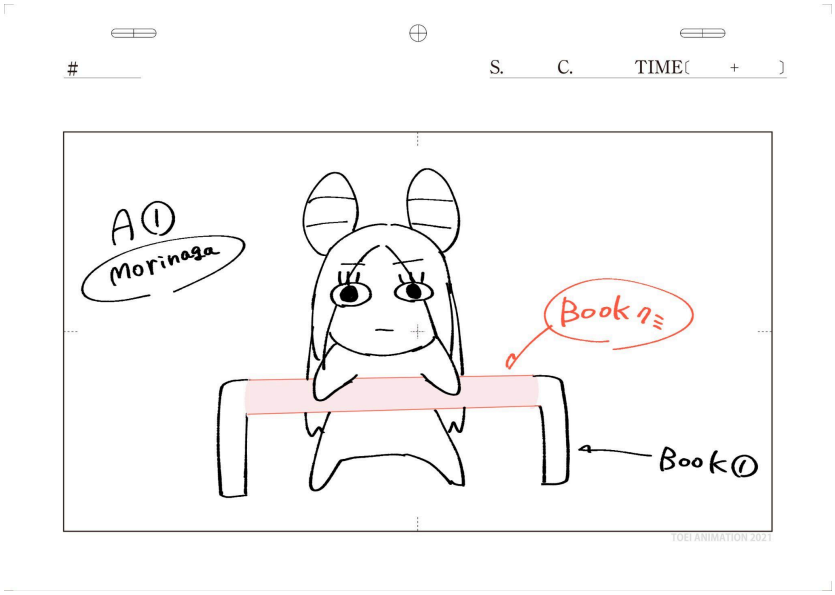
Certain sakkan have an easier time correcting cuts that use repeated movement, as the workload is lighter with the fewer frames.

・Kumi (Overlay and underlay)
Cut one part of the cell so that it does not overlay with the BG.
For example:
A character (cell) sitting at a table (BOOK).
The arms will be on top of the table, the legs will be under.
The “kumi” line (usually drawn in red and indicated with “kumi” red letters) helps the rest of the teams to understand where to cut the line, therefore please indicate it. Deliver this line on a separate layer in the CAMERA.

Kumi in Japanese = クミ or くみ

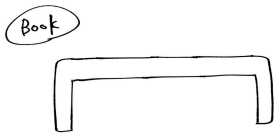
MPORTANT: You still have to draw the whole cell, even the part that is hidden!

Example of a cut that includes Kumi (クミ)



The different components of the cut separated,
Cell:

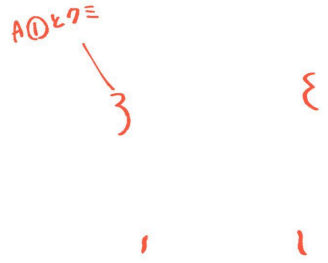
BOOK:



Kumi line (=クミ線):

Example of a cut that includes kumi within two cells

The different components of the cut separated,
Cell:

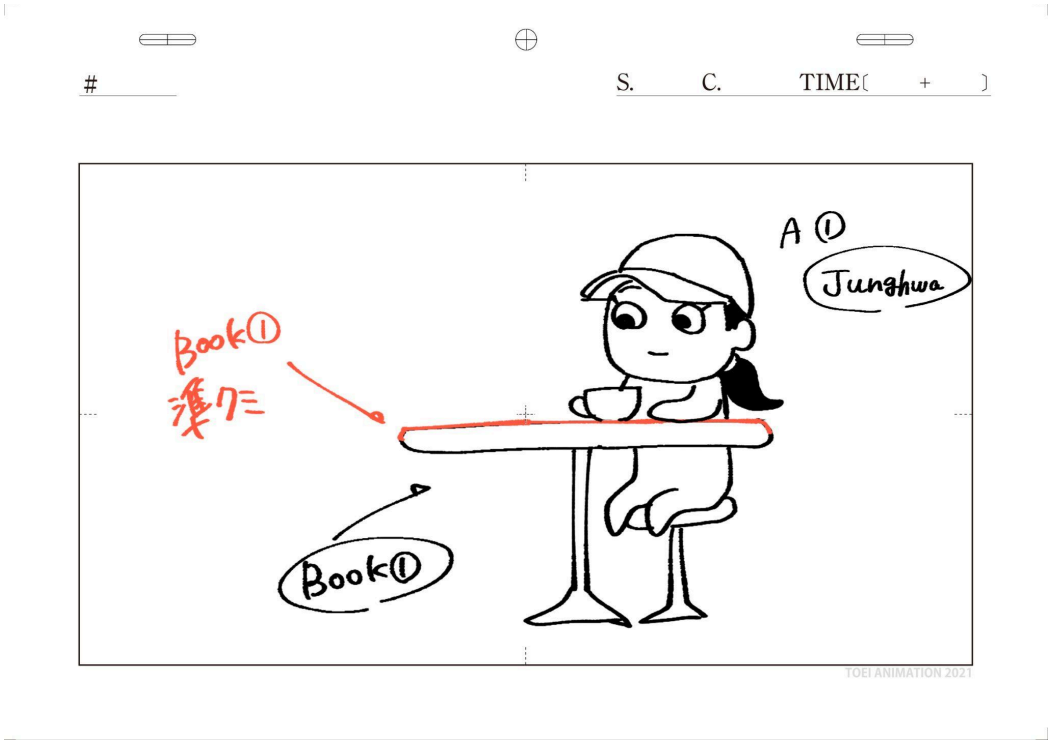


Kumi line (=クミ線）:

・Junkumi
The part of the BG and cell that need to match each other.
For example:
A character (cell) sitting on a chair (BOOK or BG).
The knee parts need to match exactly with the part of the chair that is bending down. Therefore, the director (not the animator), while checking the LO will add a “junkumi” indication, so that the BG team, animation supervisor, and eventually the animator themselves will know
that they need to strictly follow the dimensions of the objects in order for the overlay to make sense.

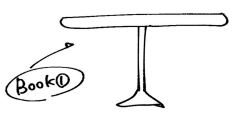
Animators do not write this, but it is important to understand this.

Example of a Junkumi cut (Junkumi = 準クミ)



The different components of the cut separated,
Cell:

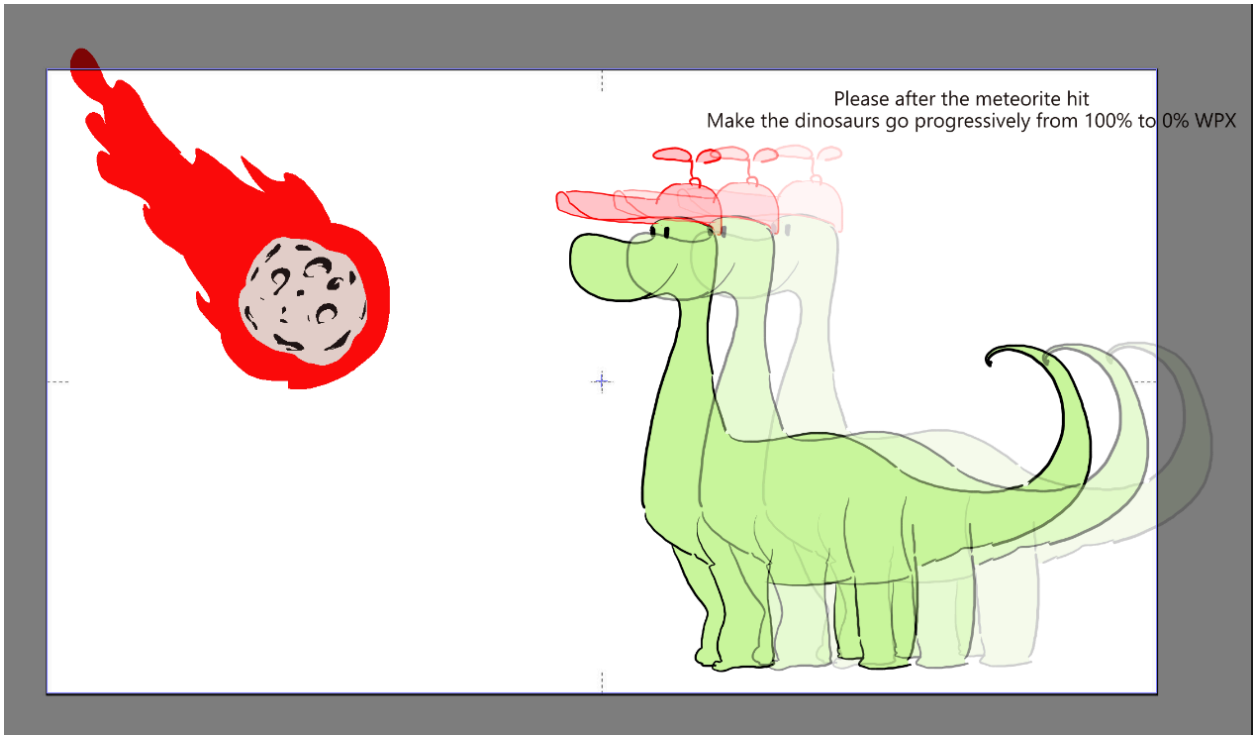
BOOK:

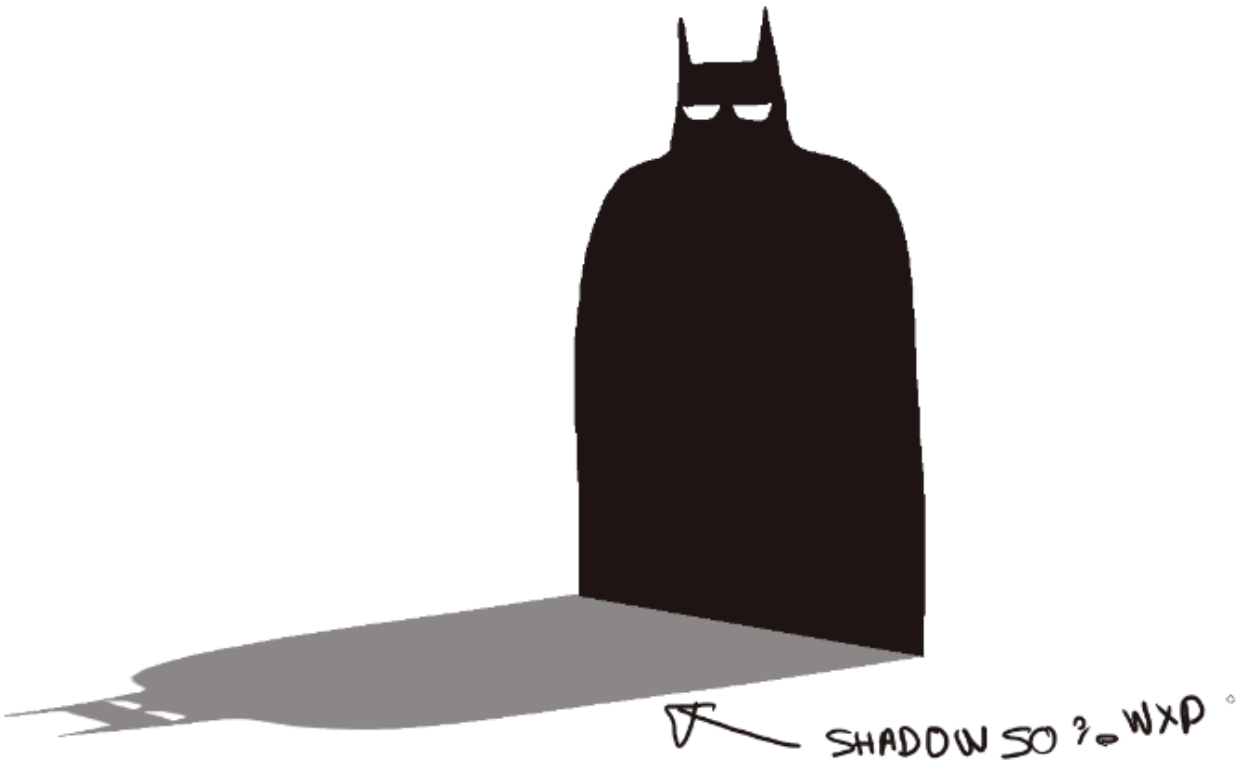


Junkumi line:

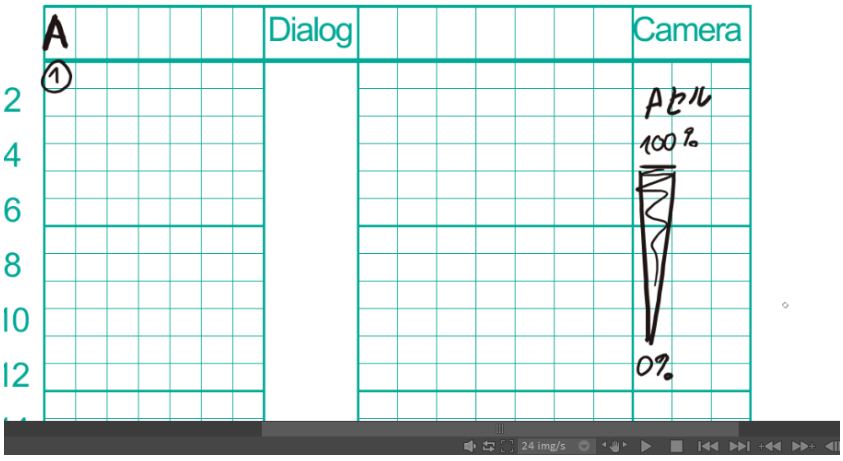
・Wxp / Daburashi

This is used for lines and colors, to make them smoother, blurred, or more see-through.
Like fog, ghosts, shadows ect…
Wxp is double exposure.



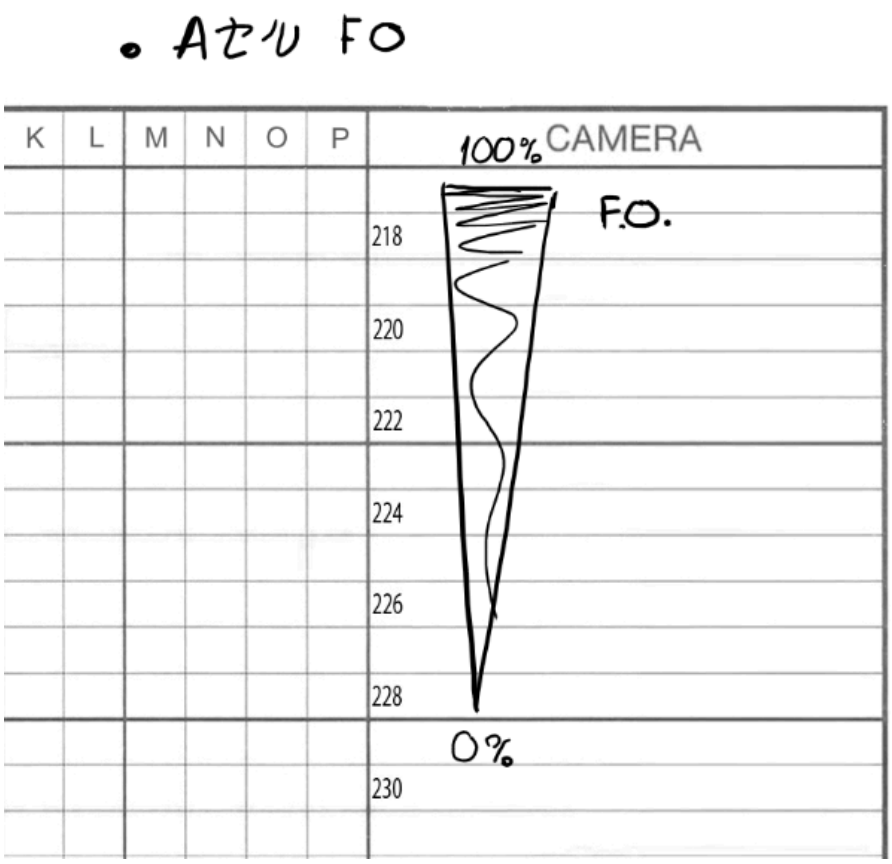


・ACTN WXP 100% → 0%

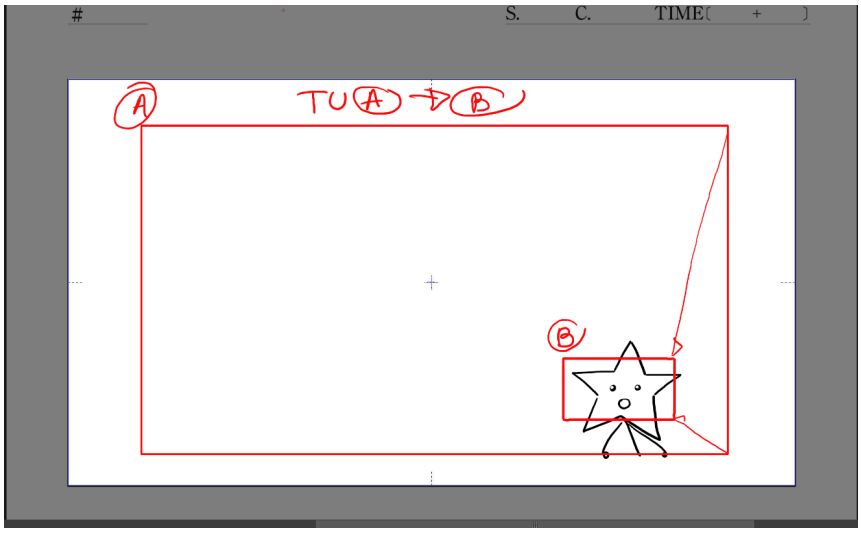


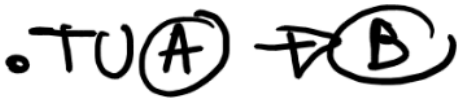
For certain cells, if only part of the cell needs the wxp effect, draw the lines with a different color. Make sure to indicate on the timesheet and LO that you want wxp.

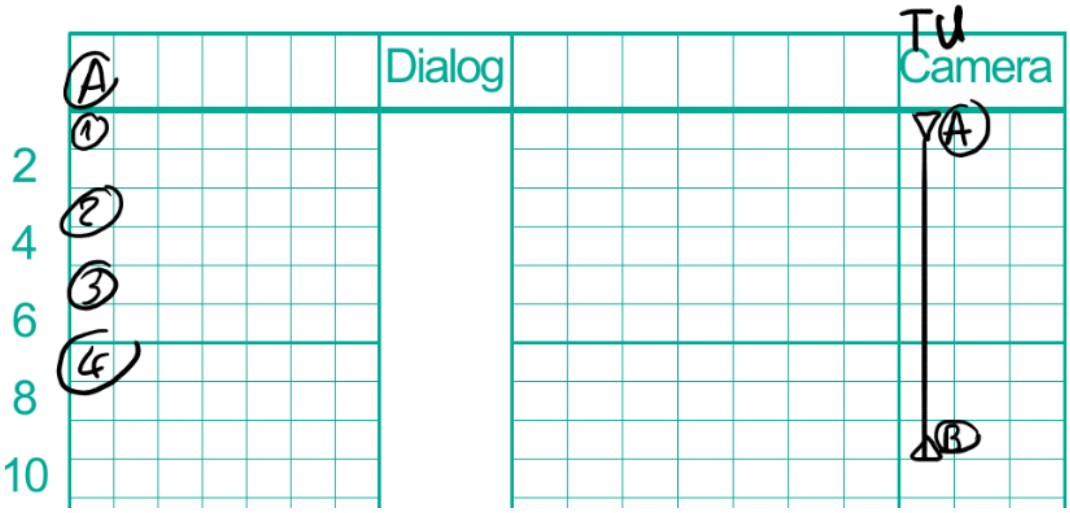
・**FI / FO** = Fade in / Fade out
(The narrower the triangle on the timesheet gets, the less the object is visible. Had it been a FI, the triangle would be upside down)



·**TB / TU** = Track back (zoom out) / Track up (zoom in)
This is the cameraframe for a TB indication. The letters shown are used on timesheets to guide the compositing team through the timing of the TB.
The camera frame should be made on a separate frame.

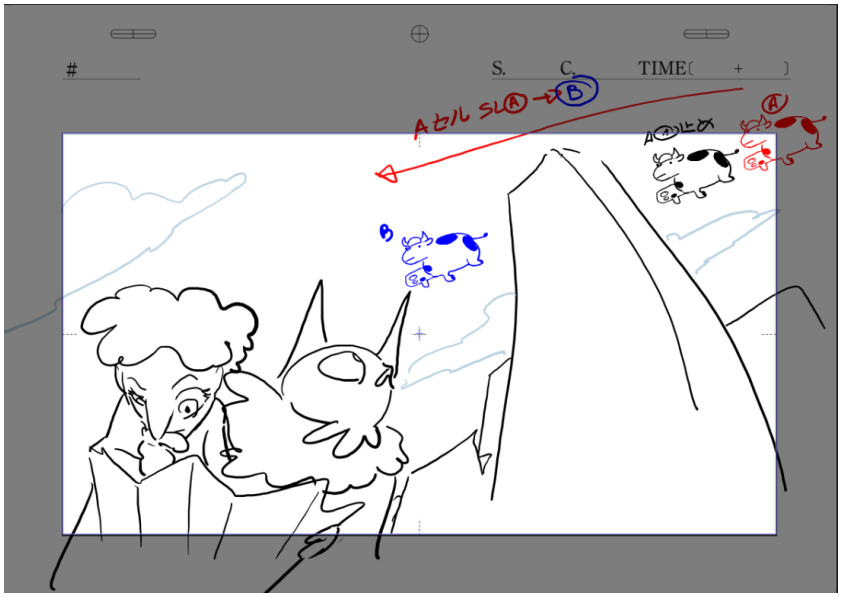




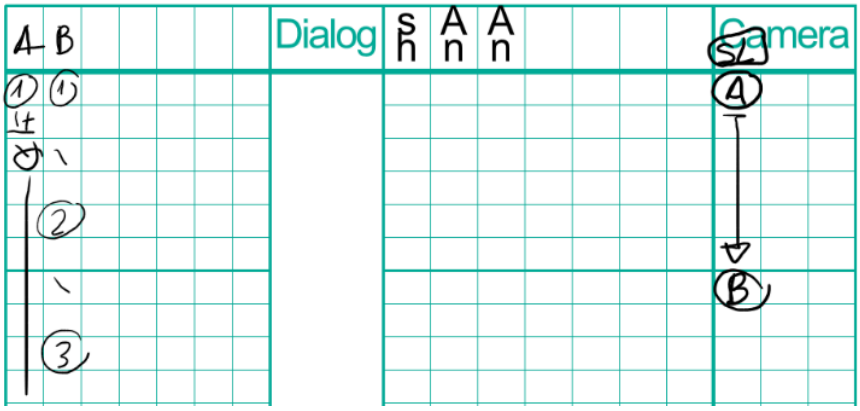


・**QTB / QTU / QFI / QPAN ect…** = Q is “quick”, so the movement is fast

・**SL** = Slide
(Indicated with the silhouette and numeration. Numeration is included on the timesheet to show the timing)



・Aセル SL(A)→(B)

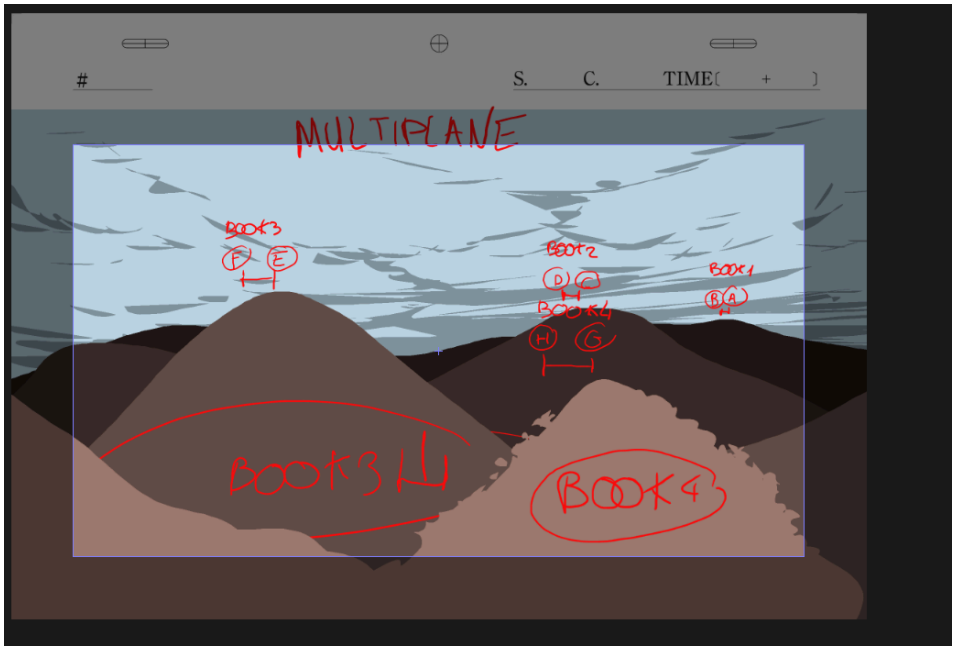


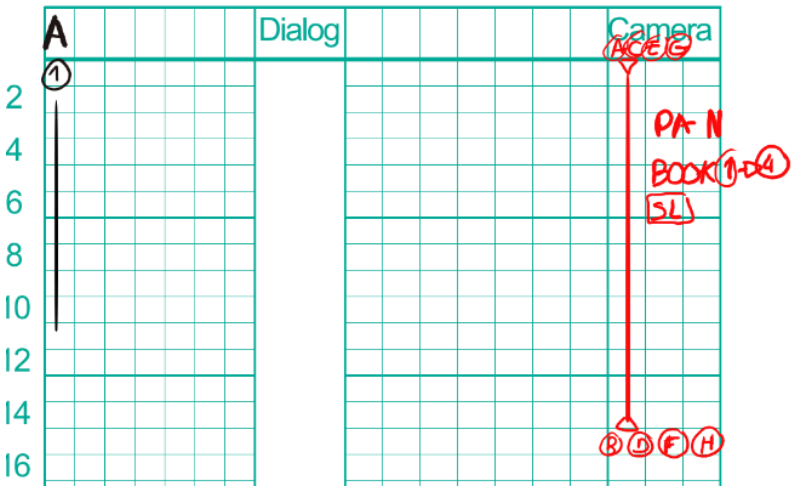
NOTE: For the numbers used to indicate the SL position, do NOT reuse the same numbers for different layers.

For example
BOOK 1: slides from 1 to 2
BOOK 2: slides from 3 to 4
You have to make sure that “slides from 1 to 2” is not duplicated, you can only use a number / letter as an indicator once.

・Micchaku SL (or MULTIPLANE PAN)
Micchaku is a form of slide that creates depth in the movement of the slide. The objects sliding (cells and BOOKs) slide in opposite directions. This word is often used, therefore it is good to know.

Example of a micchaku slide cut, and how it is presented:





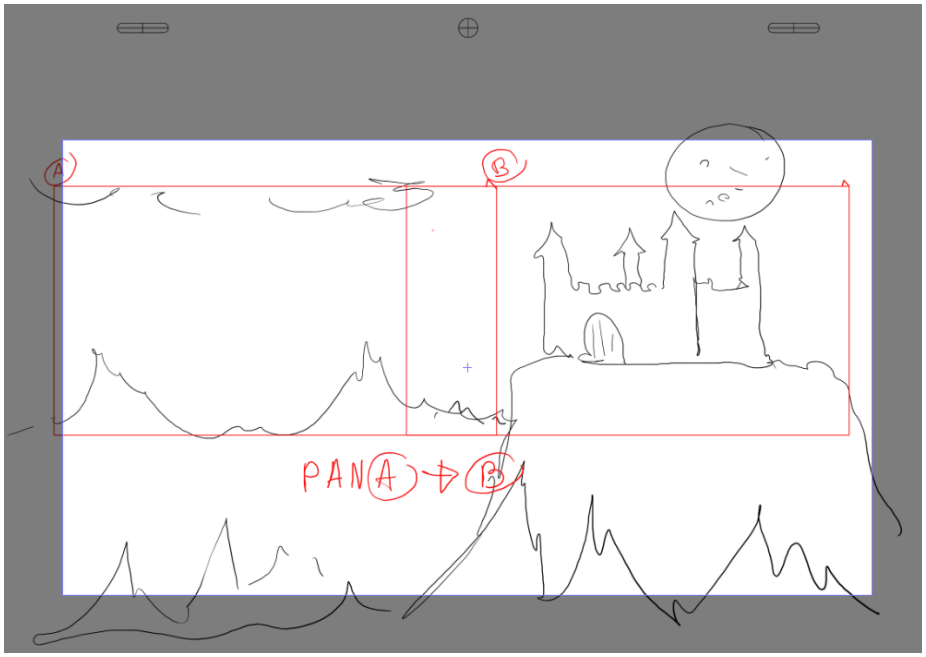
・Micchaku (MULTIPLANE) TU/TB

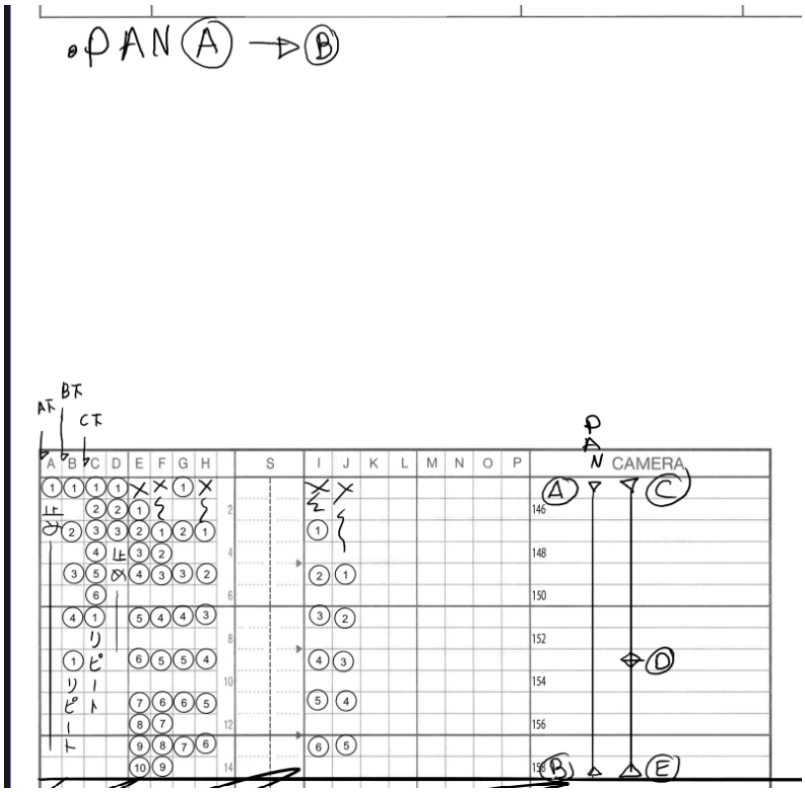
The same thing as the micchaku SL, but instead of sliding, track up and track back is used.

・**Follow** = Going alongside the BG (like a character walking and the BG is moving (or “following”) in the direction the character is advancing towards

・修**PAN = fix PAN** = the camera is not moving, instead the BG moves along with the cell to create a PAN effect

How camera work is presented, using timesheets and a cameraframe:
PAN



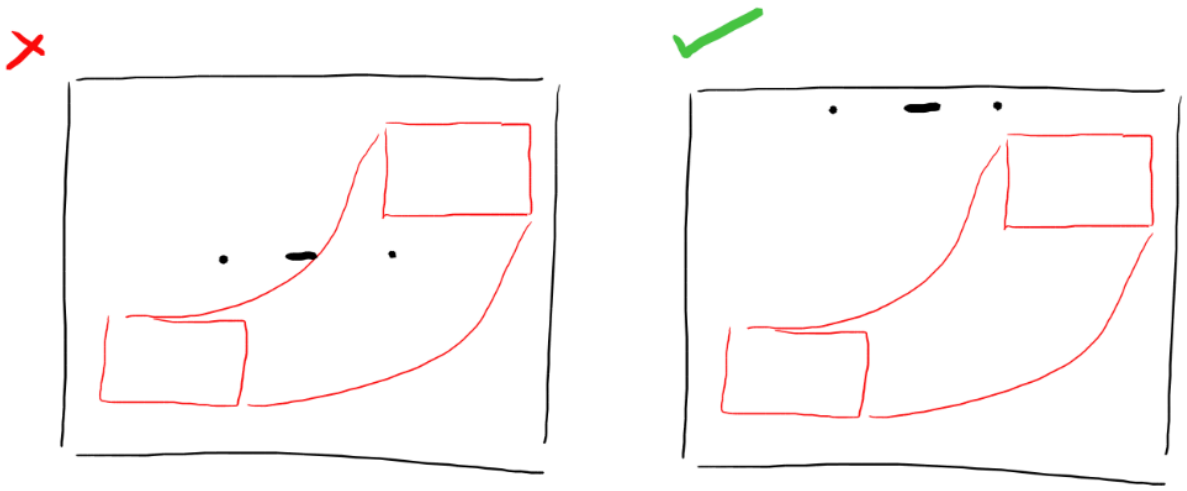


(In this case the cameraframe is drawn on the same sheet as the LO, but this is because it is drawn on paper, in order to save on resources.
If you are doing digital, please draw the frame on another sheet)

・Regarding cell size
The BG is big -> OK (since we need to do a PAN around the BG)

For the cells -> They need to be A4 size, do not draw it too big if not needed

The camera will make a PAN all around the space, therefore the BG needs to be big.



The cell should remain A4, unless it is necessary to make it big.
Depending on the supervisor, the cells will be printed out, if the cells are too big, the staff will have a hard time checking the cuts.

Last words

The most important thing is to be free and creative, therefore this is not the book to show you what you have to do 100%, but it is to show you the basics, so that you are aware of what each section is used to, so that when you want to come up with new ideas, you know how to maintain what people are used to and prevent any sort of accident from happening with your cuts in the process.

When you want to try out new ideas, ask the staff beforehand,
And keep the “law of physics” of the animation production in tact as you innovate with your ideas and passion.

The imagination and innovation of creators is a great strength that could be put to good use to enhance the vision of a director.
The most important thing is to remember that everything is relative. Certain cuts have certain solutions. Certain cuts have certain limitations. Not all cuts and team members and style of work can be grouped into one big solution.

Therefore, while exploring creative decisions, remember to maintain vision of the director, and take into account that everyone is working together, and everyone is trying whatever is within their reach and role to bring forth the vision, and make it easy for one another to bring it to life.

Always actively consult with the director before making big decisions.

Conclusion

This manual is to guide you through the steps of what “the common sense” of the industry is. Within these parameters, you can remix, and experiment with new ideas. These are not 100% the absolute rules used on EVERY production, or EVERY episode of a series.

The most important thing is to have fun! If all the staff members have fun and create a piece of work in a comfortable and smooth production environment, who knows what heights the industry might take here on forward…!

Thank you to these lovely animators,
They contributed with their drawings, that are included in this document:

- Vincent Chansard
- Kan’i Morinaga
- 456kanai

(This is a non-profit document, not produced by any organisation or formal entity)
CHAFIK

July 19th, 2026